

# Manufacturers Record

Exponent of America



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Single Copy, 20 Cents.

Baltimore, Md.  
AUGUST 2, 1923

## The South Feeding the Nation.

Annually shipping from 250,000 to 300,000 carloads of foodstuffs to the North and West, the South is feeding the nation to its own profit and to the benefit of the entire country.

The extent to which these shipments are being made is indicated in the fact that two counties in Virginia are annually shipping nearly 3,000,000 barrels of potatoes mainly to Northern and Western markets, even as far north as Canada; and that one railroad operating between the Central South and the East handled last year 95,000 carloads of fruits and vegetables destined for Northern and Western consumption.

Viewed in its broadest aspect probably the most important symposium which the Manufacturers Record has ever published appears in this week's issue, made up of letters from the officials of the leading railroads of the South and Southwest telling of the remarkable development of the fruit and trucking industry, of its profitability to Southern growers, and the enormous amount of food which is thus supplied to the rest of the country. The whole nation is being benefited by these ever-increasing supplies of early vegetables and fruits which beginning their northward movement in the late fall crowd the railroads through the entire winter with foodstuffs for the people of the North and West.

This industry has become of national importance. It has changed the whole character of the food supply of the country. In former years all classes, the rich and the poor alike, had but a limited supply of winter vegetables and fruits, depending largely upon canned goods, or on such locally raised vegetables as could be stored through the winter. Today the condition is entirely reversed. Tens of thousands of carloads of winter-raised vegetables produced in the South are distributed in Northern and Western markets to the great advantage of the health of the people, for these vegetables not only furnish sustenance to many millions, but they give them the kind of nourishing food so much needed, but which in former years did not exist.

The nation's entire food situation has been reversed, and the South, to its own great profit and to the blessing of millions of people in other sections, is carrying on a food production campaign the magnitude of which is presented in this issue as never before. The country will be awakened by a study of the facts given by railroad executives and special correspondents as to the influence of this industry upon the agricultural products of the South, upon the railroads which transport this food, and upon the consuming population in other sections of the country.

The story which we are telling is one not only of nation-wide importance, but really of world-wide importance, for it indicates that under the present system of refrigeration the world has entered upon a new era in the production through the winter in the warm climates of an abundant food supply for those who live in the colder regions during the winter months. It means an economic change of far-reaching importance; but, more than that, it means an advance in the health of the people who now have this new source of winter food supply.

To the South the development of this industry means an increase almost without limit of agricultural wealth. It means that as the nation's population increases, and the consumption of winter vegetables grows more rapidly than population, there will be room in the South for a vast increase in the production of foodstuffs for winter consumption, and of potatoes, watermelons, peaches, pears, citrus and other fruits for consumption in the early spring and summer before Northern products are ready for the market.

Amid the gloom which seems to settle over some parts of the wheat-growing regions of the West is here shown by contrast the wonderful prosperity which these trucking and fruit-growing regions are enjoying, to the good of this section and the good of the nation.

# MILBURN

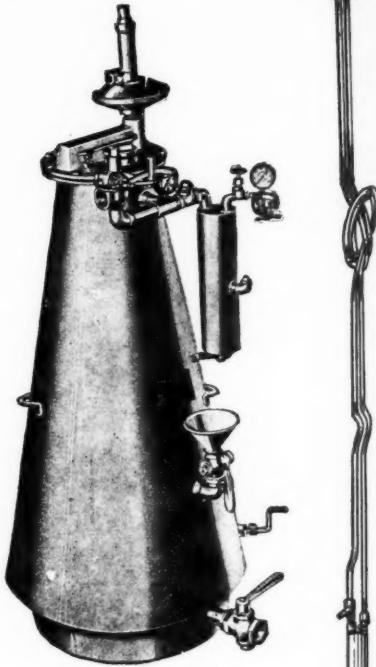
## Portable Acetylene Welding Generator

Generates gas at approximately 1c per cubic foot

It's automatic—no clocks nor motors are needed. Decidedly simple to operate.

This new generator has a capacity for 30 lbs. of carbide—equivalent to 150 cu. ft. of cylinder gas. Steel body, welded throughout. Weighs approximately 200 lbs.

Cut the cost of welding—get the full details on this improved piece of welding equipment. Write us.



### Used by

Cotton Mills  
Saw Mills

Steel Mills  
Machine Shops

Foundries  
Contractors

Railroads  
Industrials

## COMBINATION TORCH *Cuts and Welds~*



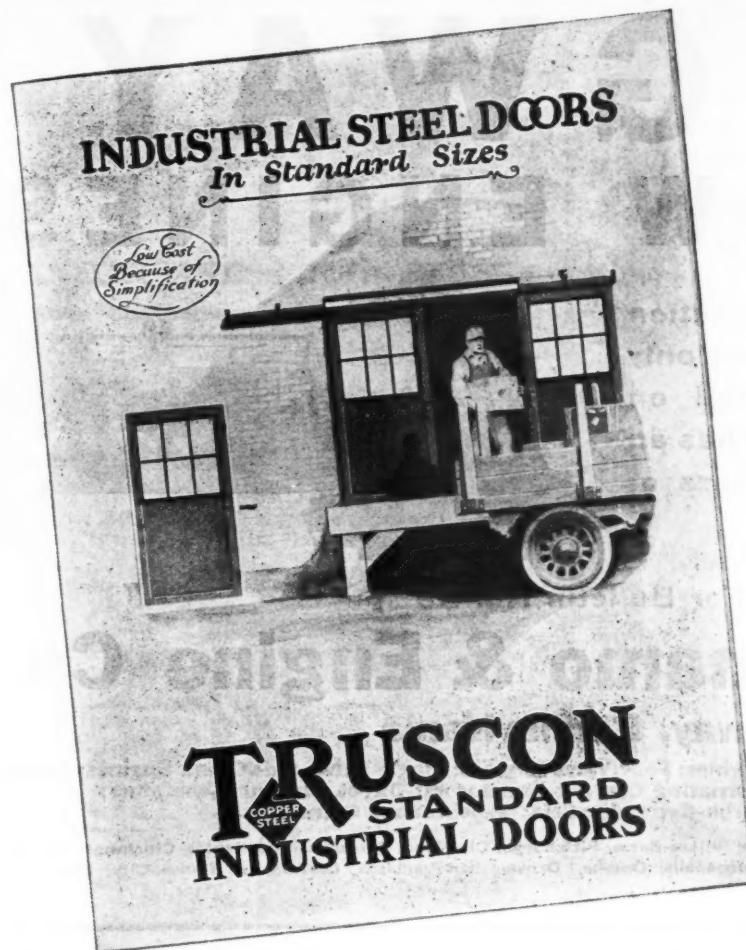
**SAVES**  
**TOOLS**  
**TIME**  
**GAS**

**YOU MERELY  
CHANGE THE TIP**

**As effectively as  
separate torches**

**Cuts 24 inches thick  
Welds heaviest jobs**

**THE ALEXANDER MILBURN COMPANY  
BALTIMORE, MD.**



SEND for your copy of this book today. It will answer practically every question you can ask about steel doors.

## Standardized Steel Doors

NOW—a standardized Truscon Steel Door for industrial uses that is built right and priced right.

The new Truscon Standard Doors are built from rugged steel sections. Every joint is electrically welded and the corners are doubly reinforced. The doors won't sag, warp or get out of line.

All door leaves are furnished with sash or solid steel panels. They will be shipped fitted or not fitted with hardware for single or double swing or sliding doors, just as you wish.

There are just three sizes. Our twenty years experience in the building field and a decade in the manufacture of steel doors, shows that these three sizes will fill more than 80% of industrial requirements.

Truscon Standard Industrial Doors will fit in any type of construction, in factories, warehouses, shops, garages, backs of stores and hotels and a hundred and one other places.

The price of these doors is surprisingly low. Quantity production does that. Remember they can be shipped in a hurry.

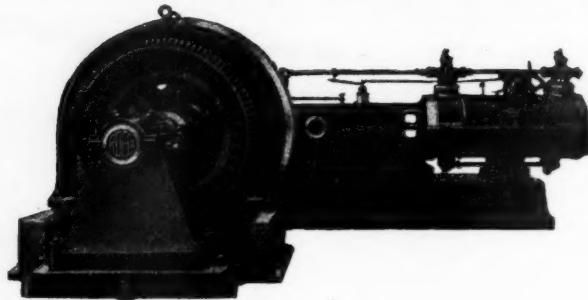
**TRUSCON STEEL CO., Youngstown, Ohio**

*Sales Offices and Warehouses from Atlantic to Pacific*

**TRUSCON**  
COPPER  
STEEL  
**STANDARD**  
**INDUSTRIAL DOORS**

# RIDGWAY UNAFLOW ENGINES

**T**HE product of an organization that takes pride in building only the best—that has specialized on Power Plant machinery—and has an enviable record of many years of successful engine building.



Ask For Bulletin No. 29

## Ridgway Dynamo & Engine Co.

Ridgway, Pennsylvania

Manufacturers of Unaflow, Poppet Valve Engines; Four Valve Engines; Single Valve, Side Crank Engines; Single Valve, Center Crank Engines; Alternating Current Generators; Direct Current Generators; Motor-Generators; Turbo-Generator Sets; Synchronous Converters.

SALES OFFICES—New York, Philadelphia, Washington, Wilkes-Barre, Pittsburgh, Cleveland, Detroit, Grand Rapids, Cincinnati, Chicago, St. Louis, Chattanooga, Boston, Minneapolis, Omaha, Denver, San Francisco, Los Angeles, Kansas City, Little Rock, New Orleans, Mexico City.

# FOSTER SUPERHEATERS

A necessity for turbine protection, engine cylinder economy and utilization of superheat for all its benefits.

POWER SPECIALTY COMPANY

Boston, Philadelphia, Pittsburgh, Kansas City,  
Chicago, San Francisco, Dallas, London, Eng.

111 Broadway, NEW YORK

## ALLEGHENY STEEL COMPANY

*Manufacturers of*

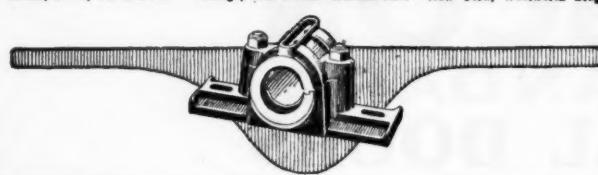
Electrical—Auto Body—Metal Furniture Sheets  
Lap Welded Steel Boiler Tubes 2" to 6" O. D.  
Heavy Castings

Oliver Bldg., Pittsburgh, Pa. Works: Brackenridge, Pa.

## TRANSMISSION MACHINERY

THE Caldwell line is complete. Bearings—heavy, properly designed, and well finished. Pulleys of ample weight and accurately turned. The entire line has achieved outstanding recognition under hard service. Let us figure on your requirements.

H. W. CALDWELL & SON CO. LINK-BELT COMPANY, OWNER  
Dallas, Texas—709 Main St.—Chicago, 17th St. and Western Ave.—New York, Woolworth Bldg.



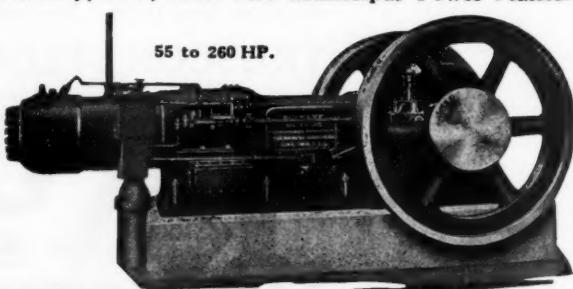
## CHUSE ENGINES

Single Valve, Poppet Valve Uniflow,  
non-Releasing Corliss; built in  
sizes 100 I.H.P. to 1600 I.H.P.

Chuse Engine & Mfg. Co., Mattoon, Ill.

## BUCKEYE OIL ENGINES

for  
Factory, Mill, Mine and Municipal Power Plants.

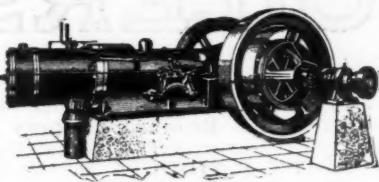


55 to 260 HP.  
THE BUCKEYE MACHINE CO.  
LIMA, OHIO.

August 2, 1923.

## MANUFACTURERS RECORD.

5

**SANE BUSINESS JUDGMENT**

demands equipment, particularly in the power plant, that is long lived, economical, and dependable in operation. This sort of judgment is shown by the purchaser of a PRIMM Oil Engine—You buy more than an engine when you buy a PRIMM. You buy 22 years of specialized Oil Engine Manufacturing Experience.

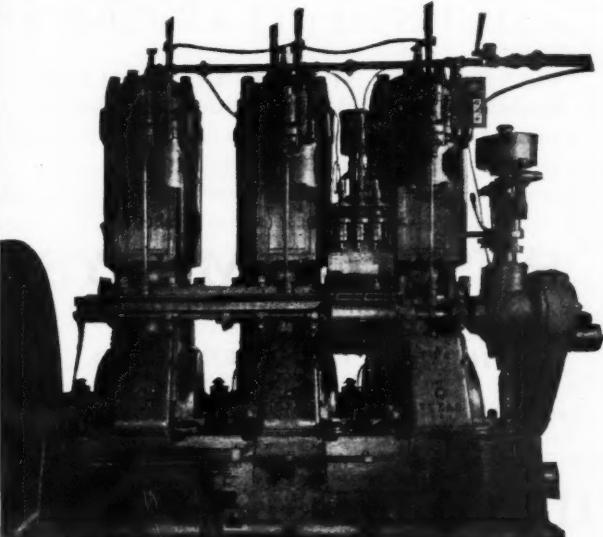
PRIMM Oil Engines are built in sizes ranging from 20 to 300 horse power. Detailed information is yours for the asking.

**THE POWER MFG. CO.**

703 Cheney Ave.

MARION, OHIO

**PRIMM  
Oil Engines**

**TIPS SEMI-DIESEL HEAVY OIL ENGINES**

Vertical multi-cylinder Type "J"

30 to 165 HP

Fuel pumps under governor control; no by-passes; unit control of pumps. Electrical Glow Plugs—No torches. Starting Air on every Cylinder. Engine starts in sixty seconds.

*Write for Bulletin J*

**TIPS ENGINE WORKS**  
AUSTIN, TEXAS

# FOR HEAVY DUTY **Beaver**

—For any type or style of construction equipment, power operated, you will find a Beaver engine particularly adaptable.

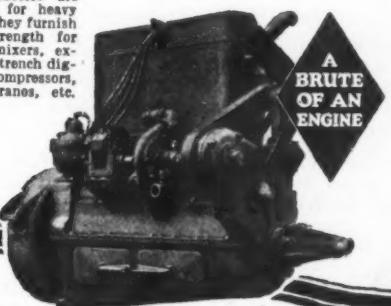
—Manufacturers now using Beaver will testify to its dependability and surplus power. Beaver valves are in the head giving more power per explosion. A perfected manifold delivers dry gas to favorably shaped combustion chambers. And there are many other advantages which explain the great smooth power of Beaver.

*Complete technical data sent on request.*

**BEAVER MANUFACTURING CO.  
MILWAUKEE**

WISCONSIN

Beaver Motors are designed for heavy duty. They furnish *Brute* strength for pavers, mixers, excavators, trench diggers, compressors, hoists, cranes, etc.

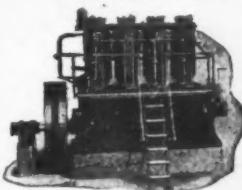


# THE FOOS

**A RUN FOR YOUR MONEY**

It is a common thing to find a FOOS faithfully on the job delivering its full power rating after more than 20 years of continuous operation. We have record of many such installations. The highest quality materials obtainable plus master workmanship and 36 years' engineering experience, insures a good run for your money.

All fuels 6 to 325 HP



THE FOOS GAS ENGINE CO., SPRINGFIELD, OHIO

## ENGINES      BOILERS TANKS      TOWERS      SMOKE STACKS

If you are in the market for the above, get our prices. We are Southern Manufacturers, and not only manufacture, but guarantee our products. We want you to take advantage of our 50 years' experience.

*Write us for further information  
and become a satisfied customer.*

**SCHOFIELD'S IRON WORKS**  
Dept. H                    MACON, GA.

# BROWNELL BOILERS

**SIGNIFIES** Long Life, Highest Efficiency, Low Maintenance and Mechanically correct. This accounts for Brownell Boilers being specified by leading Engineers and high class Architects who demand the best.



A Contract means little unless the concern with which you are dealing is one of known reliability. The Brownell Company with its 68 years of experience as manufacturers of **QUALITY PRODUCTS** has 68 years of reputation to maintain, therefore, you take no risk in sending us your order.

Sales Representatives in All Sections of the Country

**THE BROWNELL COMPANY, Dayton, Ohio, U. S. A.**

Established 1855

## SPRINGFIELD BOILERS

NO STAY BOLTS      NO BRACES      NO BENT TUBES

Sizes to 3000 H. P.—Pressures to 500 lbs.

Are all steel throughout and this benefit of all-steel construction enables us to offer a more substantial boiler, requiring less space for like capacity and consequently less brick for its setting than the ordinary type.

With the exception of expanding a few tubes, there is no mechanical work required in erecting the SPRINGFIELD.

We will be glad to give you any information you desire on request.

**SPRINGFIELD BOILER CO.**  
SPRINGFIELD, ILL., U. S. A.



## Walsh & Weidner WATER TUBE BOILERS

Quality, safety, efficiency and simplicity of design, to say nothing of their long life, high economy and low maintenance have proven the success of Walsh & Weidner Water Tube Boilers. Built in sizes up to 1,500 H.P. and for working pressure to and including 300 lbs. per square inch.

*Write for our Water Tube Bulletin*

**The Walsh & Weidner Boiler Co.**  
Chattanooga, Tenn.

New York      Chicago      New Orleans      Memphis      Jacksonville      Kansas City      San Francisco      Havana

## CHARLESTON DRY DOCK & MACHINE CO.

Successors to VALK & MURDOCH CO.

**MARINE AND STATIONARY BOILERS**  
Repairs to Steel and Wooden Vessels

8,000-ton Dry Dock - 1,500 and 600-ton Marine Railways  
CHARLESTON, S. C.

## RUST CHIMNEYS

RADIAL BRICK AND REINFORCED CONCRETE  
REFRACTORY BRICKWORK

**THE RUST ENGINEERING CO.**  
ENGINEERS AND CONTRACTORS

Pittsburgh      Washington      Birmingham

## THE BABCOCK & WILCOX COMPANY

85 LIBERTY STREET, NEW YORK

Builders since 1868 of  
Water Tube Boilers  
of continuing reliability

BRANCH OFFICES

BOSTON, 49 Federal Street  
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CINCINNATI, Traction Building  
ATLANTA, Candler Building  
TUCSON, ARIZ., 21 So. Stone Avenue  
DALLAS, TEX., 2001 Magnolia Building  
HONOLULU, H. T., Castle & Cooke Building  
PORTLAND, ORE., 805 Gasco Building



WORKS

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Barberton, Ohio

Makers of Steam Superheaters  
since 1898 and of Chain Grate  
Stokers since 1893

BRANCH OFFICES

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NEW ORLEANS, 521-5 Baronne Street  
HOUSTON, TEXAS, Southern Pacific Building  
DENVER, 435 Seventeenth Street  
SALT LAKE CITY, 705-6 Kearns Building  
SAN FRANCISCO, Sheldon Building  
LOS ANGELES, 404-6 Central Building  
SEATTLE, L. C. Smith Building  
HAVANA, CUBA, Calle de Aguiar 104  
SAN JUAN, PORTO RICO, Royal Bank Building



*The most powerful locomotives, the fastest ships, the largest power plants, give daily evidence of the dependability and efficiency of*

# "SHELBY" BOILER TUBES

---

**UNIFORMITY, STRENGTH AND DUCTILITY**  
are literally wrought into every "SHELBY" Seamless Boiler Tube  
by an organization with over fifty years of tube-making experience—imparting qualities which enable "SHELBY" tubes to give especially good service under the severe and exacting conditions of all types of modern boiler usage.

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*Ask for a copy of "National" Bulletin No. 16—MANUFACTURE AND ADVANTAGES OF "NATIONAL" AND "SHELBY" BOILER TUBES*

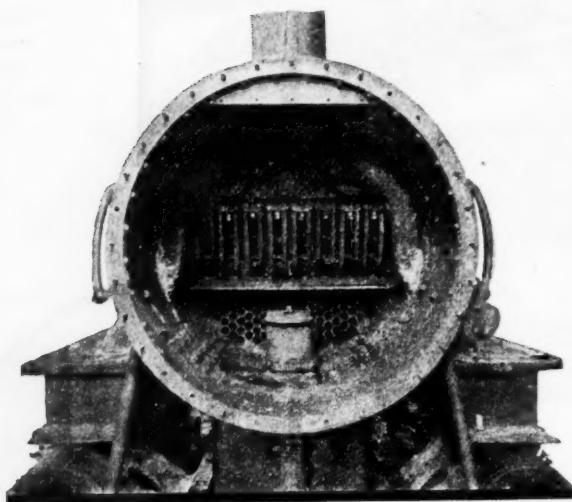
**NATIONAL TUBE COMPANY, PITTSBURGH, PA.**

General Sales Offices: Frick Building

DISTRICT SALES OFFICES

Atlanta Boston Chicago Denver Detroit New Orleans New York Salt Lake City Philadelphia Pittsburgh St. Louis St. Paul  
PACIFIC COAST REPRESENTATIVES: U. S. Steel Products Company San Francisco Los Angeles Portland Seattle  
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## Genuine Old Fashioned Knobbled Charcoal Iron Boiler Tubes for Increased Mileage



The superiority of charcoal iron boiler tubes is especially evident in locomotive service, where constant vibration and abnormal and varying water conditions combine to make the service extremely exacting.

Genuine Old Fashioned Knobbled Charcoal Iron Boiler Tubes used in this service have demonstrated their superiority over tubes of less resistant materials. Slag or cinder content, ductility, and chemical purity combine to give charcoal iron the qualities of high resistance against crystallization, corrosion, and pitting.

And the performance of Genuine Old Fashioned Knobbled Charcoal Iron Boiler Tubes in this most exacting service has shown discriminating users the way to ultimate boiler tube economy. Specify Genuine Old Fashioned Knobbled Charcoal Iron Boiler Tubes when you order new boilers or retube the old.

*Catalog on request*

BETHLEHEM STEEL COMPANY, General Offices: BETHLEHEM, PA.

Sales Offices:

New York Boston Philadelphia Baltimore Washington Atlanta Pittsburgh Buffalo Cleveland Cincinnati Detroit Chicago St. Louis San Francisco  
Bethlehem Steel Export Corporation, 25 Broadway, New York City, Sole Exporter of our Commercial Products

# BETHLEHEM

### Relief from Undue Strains

created through expansion or contraction and weight of piping is needed in every power plant. To meet this need we have perfected a high grade, compact inside screw stem gate valve for 150 pounds working steam pressure.

#### The New POWELL 150 Pound GATE VALVE

Is cast of high grade bronze, has a solid tapered bronze disc and tapered seat and gland packed. Reinforcing ribs cast in the body shell and additional thickness in the hexagon ends assure strength, safety and relief from unusual strains. Can be repacked under pressure when the valve is wide open. Furnished in 10 sizes,  $\frac{1}{4}$  inch to 3 inches. Descriptive folder mailed on request.

THE WM. POWELL COMPANY  
2531 Spring Grove Ave., Cincinnati, Ohio

# POWELL VALVES



### LUNKENHEIMER Gate Valves

Don't simply specify, but INSIST upon having Lunkenheimer Gate Valves. They are the best the market affords and the great variety enables a selection for any requirement—pressure, temperature or service.

Obtainable in Bronze, Iron Body Bronze Mounted and Steel Monel Mounted.

Catalog 58 FB portrays this extensive line.  
Write for a copy.

*"America's Best since 1862"*

THE LUNKENHEIMER CO.

LARGEST MANUFACTURERS OF  
HIGH GRADE ENGINEERING SPECIALTIES  
NEW YORK BOSTON CHICAGO CINCINNATI U.S.A. LONDON  
EXPORT DEPT. 120-125 LAFAYETTE ST. NEW YORK

A comprehensive line of Engineering Appliances offering a type and size to meet all prevailing conditions.

#### VALVES

Bronze, Iron, Steel; Globe, Angle, Cross, Check, Gate, Throttles, Non-return, Blow-off, Pop Safety, Relief, Whistle, etc.

#### BOILER MOUNTINGS

Non-return, Pop Safety and Blow-off Valves; Water Columns, Water Gauges and Gauge Cocks, Injectors, Low Water Alarms, Foul Air Plugs.

#### LUBRICATORS

For Steam, Gas, Gasoline, Oil, Compressor and Pump Cylinders; Gravity Feed or Hydrostatically, Hand or Mechanically Operated.

#### OIL AND GREASE CUPS

Glass or Bronze Body Oil Cups with or without Sight-feed; Automatic Feed, Cap or Plunger Screw Feed Grease Cups of Bronze, Iron or Steel.

Whistles, Cocks, Pipe Fittings, Unions, Ejectors, Air Nozzles, Automotive Accessories, Etc.



600-32-62

# For service—for economy *Jenkins throughout*

Valve economy can be based only on valve service, and for that reason *Jenkins throughout* is the practice of power plant engineers everywhere. Where valve installations are considered on the basis of service and low maintenance cost, you will find Jenkins Valves.

Among the reasons why *standardization on Jenkins* is true valve efficiency and economy are:

Assured service, for Jenkins Valves have strength to meet the most severe conditions.

Operatives can easily acquaint themselves with the simple construction of Jenkins Valves. They do not have to worry about the actions and peculiarities of valves of widely varied manufacture.

Reduced inventories of replacement parts, as it is not necessary to carry a scattered assortment of parts—which is the case where valves of many and various makes are used.

Parts are interchangeable, made so by careful and standardized manufacture.

Nation-wide distribution, through supply houses everywhere, carries Jenkins Valves to every locality.

Jenkins Valves are made in Bronze, Iron, and Steel for all requirements.

*The installations shown are in the plant of Harvey Hubbell Inc., Bridgeport, Conn.*

## JENKINS BROS.

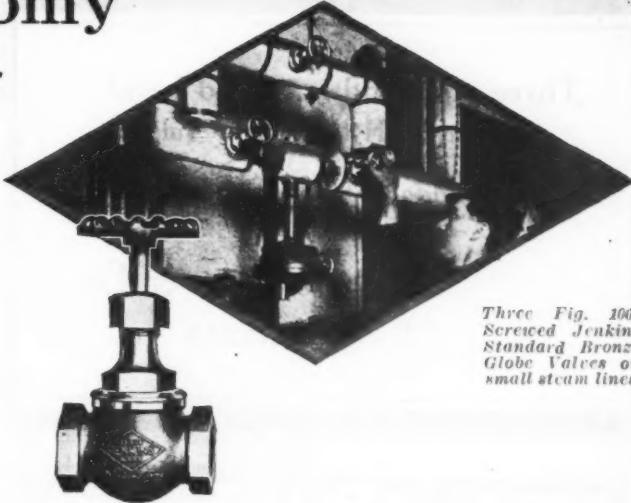
New York  
Montreal

Boston

Philadelphia

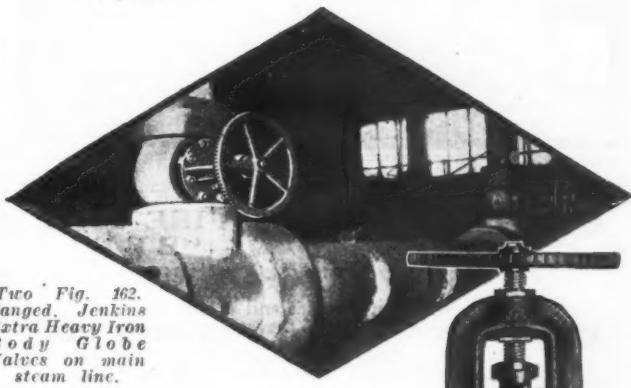
Chicago  
London

FACTORIES:—Bridgeport, Conn.      Elizabeth, N. J.  
Montreal, Canada



Three Fig. 106,  
Screwed Jenkins  
Standard Bronze  
Globe Valves on  
small steam lines.

Fig. 106



Two Fig. 162,  
flanged, Jenkins  
Extra Heavy Iron  
Body Globe  
Valves on main  
steam line.

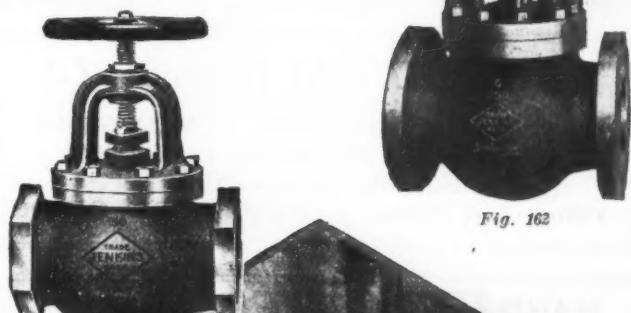


Fig. 162

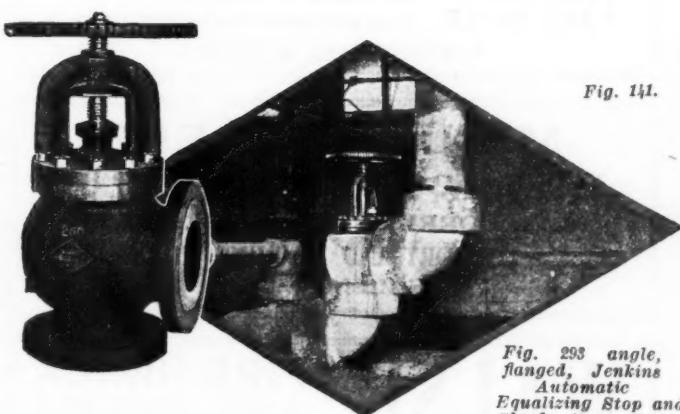


Fig. 141.

Fig. 293 angle,  
flanged, Jenkins  
Automatic  
Equalizing Stop and  
Check (non-return)  
valve.



Fig. 141, screwed,  
Jenkins Standard  
Iron Body Globe  
Valve on boiler  
feed line.

Always marked with the "Diamond"  
**Jenkins Valves**  
SINCE 1864

Three of a kind is a good hand—  
“Stevens,” “Hytest” and “Vulcan”

All dependable fire-bricks made by Stevens

### Stevens Bros. & Co. Atlanta



**PLIBRICO**  
FOR BOILER SETTINGS AND BAFFLES  
BETTER THAN FIRE-BRICK  
Can Be Installed By Inexperienced Labor  
Will Withstand 3100 Deg. Temperature—  
Shipped in Steel Containers only  
**JOINTLESS FIRE BRICK CO.**  
OFFICE AND FACTORY 113B CLAY ST CHICAGO  
Warehouse Stock in Principal Cities for Immediate Shipment

**FIRE BRICK**  
“AAA”  
“SERVICE CROWN”

Write for samples and prices  
**CANNELTON CLAY PRODUCTS CO.**  
Office and Factory  
CANNELTON, INDIANA, U. S. A.

**FIRE CLAY**  
“B B B”

**CARBONDALE**  
REFRIGERATING MACHINERY  
Exhaust Steam Absorption and  
Ammonia Compression Systems

NEW YORK CHICAGO BUFFALO PITTSBURGH KANSAS CITY  
LOS ANGELES PHILADELPHIA NEW ORLEANS BALTIMORE

**WATER COOLING TOWERS**  
**SPRAY COOLING PONDS**  
**IMPACT AIR WASHERS**

**THE COOLING TOWER CO., INC.**  
15 John St., New York City

**ARMSTRONG INTERLOCKING**  
**SHAKING GRATES**  
cut fuel costs from ten  
to forty per cent.  
—Prove it—  
your plant—our expense  
**Armstrong Mfg. Company**  
W. Liberty Street  
Springfield, Ohio

### THE CAMBRIA CLAY PRODUCTS CO.

MANUFACTURERS

SEWER PIPE - FLUE LINING - WALL COPING  
FACE BRICK - FIRE BRICK - FIRE CLAY  
HOLLOW BUILDING TILE  
Office and Works - BLACKFORK, OHIO

### ALABAMA CLAY PRODUCTS CO.

*Manufacturers*

**FIRE BRICK** Standard and special shapes  
**FIRE CLAY** In Bulk or Bags  
**FACE BRICK** Impervious Buff-Textures

BIRMINGHAM, ALABAMA

### HAND FIRE BRICK MADE

Made from the famous Olive Hill, Kentucky flint and  
semi-flint clays. They are hand made throughout.

**BRANDS**

Ironton “Steel” and Ironton “Peerless”  
**THE IRONTON FIRE BRICK COMPANY**  
General Office & Works  
IRONTON, OHIO

Mines  
BRADMYER, CARTER CO., KY.

### MILL BUILDERS

FLOUR AND CORN MILL MACHINERY  
EFFICIENCY ECONOMY DURABILITY  
ROLL CORRUGATING A SPECIALTY  
SALEM FOUNDRY AND MACHINE WORKS, INC.  
SALEM - VA.



### THE OHIO REFRactories CO. IRONTON, OHIO

**HIGH GRADE**  
**FIRE BRICK**

**GROUND**  
**FIRE CLAY**

**WALSH** FIRE BRICK AND SHAPES  
**WALSH FIRE CLAY PRODUCTS CO.**  
ST. LOUIS, MO.  
CHICAGO

**WALSH** FIRE BRICK AND SHAPES  
ST. LOUIS, MO.  
NEW YORK

### “Mount Savage” Fire Brick

**UNION MINING COMPANY**  
Plant:  
Mount Savage, Md.

*Gen'l Offices*  
Baltimore, Md.



## *The Fourth Great Test of* **TERMOLITH** *the All-temperature fire cement*

### **1. The Thermolith Arch**

This arch, having a 6-foot span, a 6-inch rise and a thickness of 9 inches was laid with Thermolith and allowed to set cold. No skewbacks or other supports were used. Only the tensile and compressive strength of the Thermolith joint sustains the arch.

### **2. The Seger Cone Test**

- A. The Seger Cone of known fusion point.
- B. One of many ordinary fire cements, completely fused.
- C. Thermolith intact after the same test.

In every Cone Test Thermolith has withstood the highest working temperatures.

### **3. The Sand Blast Test**

Even though first quality fire brick are being rapidly cut away by the severe abrasion of the sand blast, the Thermolith joint persistently maintains its structure and bond.

THREE supremely critical tests have conclusively proved the superior qualities of Thermolith as a bond for fire clay brick. Now, finally, the fourth great test—the test of actual use—adds to these the proof of service, economy and satisfaction.

Throughout the wide range of industries using fire brick, Thermolith is increasing the life of furnace linings and other fire brick construction to a remarkable degree. Its tenacious bond provides an effective barrier to the destructive forces which commonly hasten fire brick failures and it quickly pays for itself in lessened upkeep and fewer shut-downs for repairs and replacements.

Thermolith will prove its worth to you as it has to thousands of others.

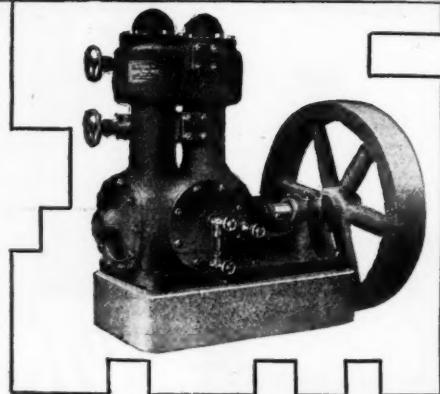
**HARBISON-WALKER REFRactories CO.**  
Worlds Largest Producers of Refractories  
Pittsburgh, Pa., U.S.A.



## The Key That Unlocks the Door to INCREASED PROFITS

THOUSANDS of York Machines have paid for themselves, and are now earning substantial dividends for their owners. These machines are designed for service, built of the best materials for the purpose, thoroughly tested and rigidly inspected before shipment. They are self-contained, require very little attention and do not require a skilled operator. There is probably no other equipment you can buy that will be a greater help in increasing your profits than a York Refrigerating Machine.

**YORK MANUFACTURING COMPANY**  
*Ice Making and Refrigerating Machinery Exclusively*  
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## AN ICE PLANT???

The Arctic Stationary Can Raw Water System is the one you should buy because in actual daily use it will reduce your running and overhead expenses.

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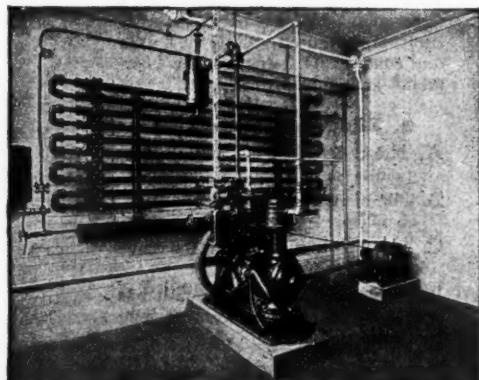
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- Minimum Cost for Power—
- Most Efficient Air Agitation—
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- Blocks of Uniform Size.

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Economical Refrigeration can only result from a properly proportioned plant made up of machinery designed and built correctly. We offer you the benefit of our long experience and guarantee our product.

Frick machines are paying good dividends everywhere. It will pay you to investigate.

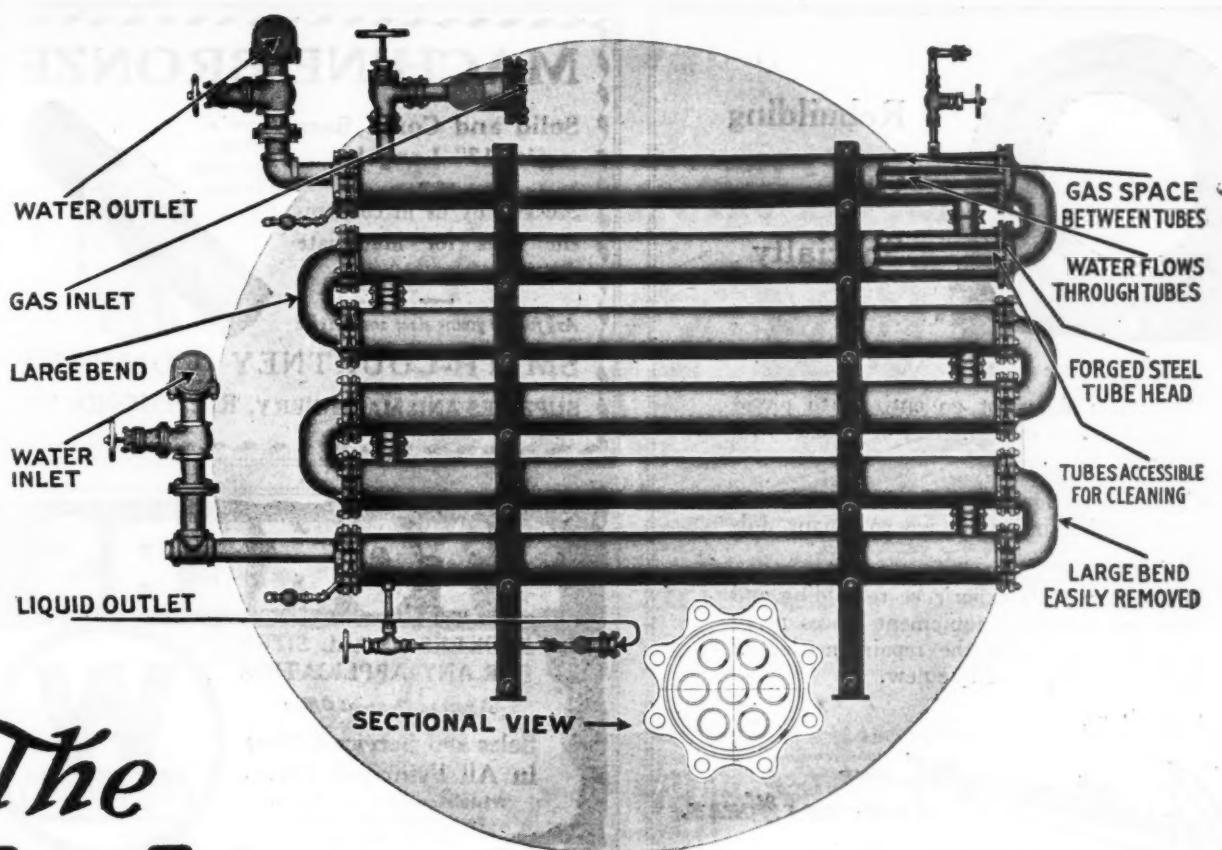
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ICE MACHINERY SUPERIOR SINCE 1822

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*The*

# Vogt MULTITUBE

(PATENTED)

## Ammonia Condenser

The design of the Vogt Multitube Condenser is the reason for its high efficiency and low power cost in operation.

It is built of the best materials.

It is the most efficient because of the close contact between the cool water and the hot ammonia gas based on the counter-current principle.

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**LOUISVILLE, KY.**

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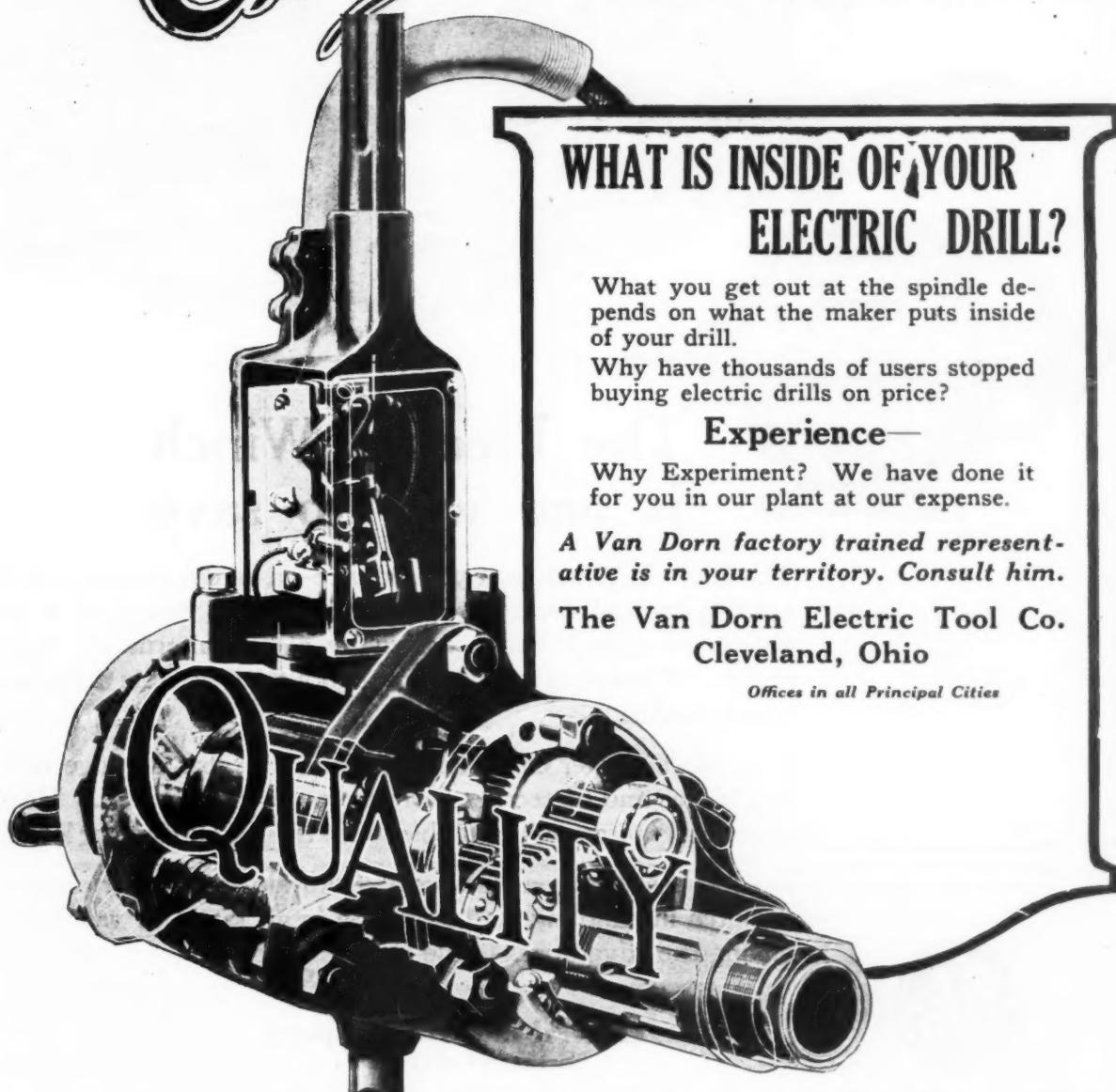
MANUFACTURERS OF WATER TUBE AND HORIZONTAL RETURN TUBULAR BOILERS :: ICE-MAKING AND REFRIGERATING MACHINERY :: DROP FORGED STEEL VALVES AND FITTINGS :: OIL REFINERY EQUIPMENT





3.

*Why Experiment?*  
Use **Van Dorn**  
**ELECTRIC DRILLS & GRINDERS**



**WHAT IS INSIDE OF YOUR  
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What you get out at the spindle depends on what the maker puts inside of your drill.

Why have thousands of users stopped buying electric drills on price?

**Experience—**

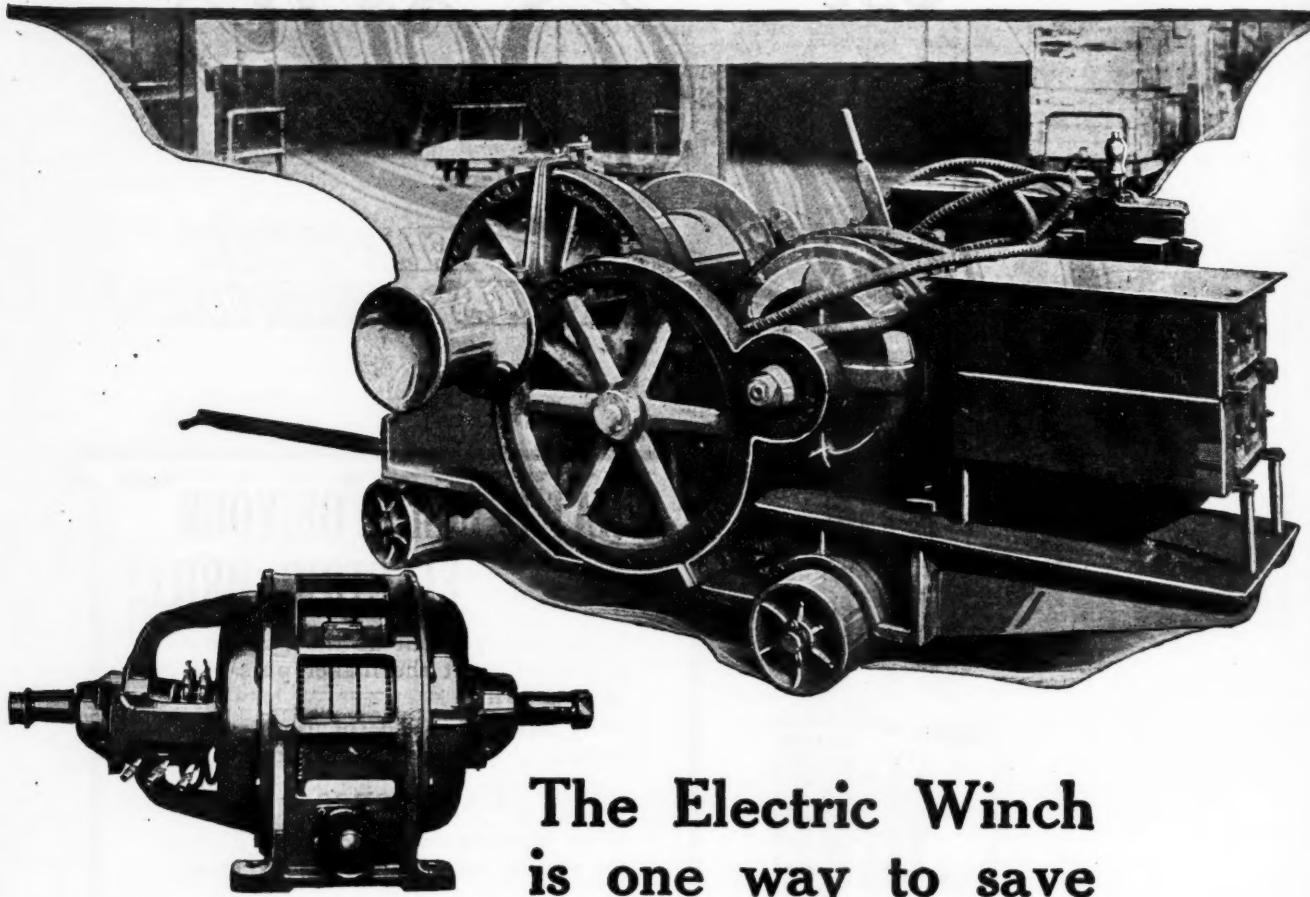
Why Experiment? We have done it for you in our plant at our expense.

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*Offices in all Principal Cities*

*The greatest cost savings of today and tomorrow lie in methods of moving rather than in methods of making*



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The Electric Winch is at your service—a hardy, compact, dollar-earning and dollar-saving outfit. The above view is of a portable electric dock winch driven by a G-E alternating current motor. Current is supplied through a flexible cable attached to a plug outlet.

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43B-654

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GENUINE Albany Grease is 100% lubricant in every shaft or machinery bearing. Good Engineers use it. Genuine Albany Grease has this familiar trade mark on every package.

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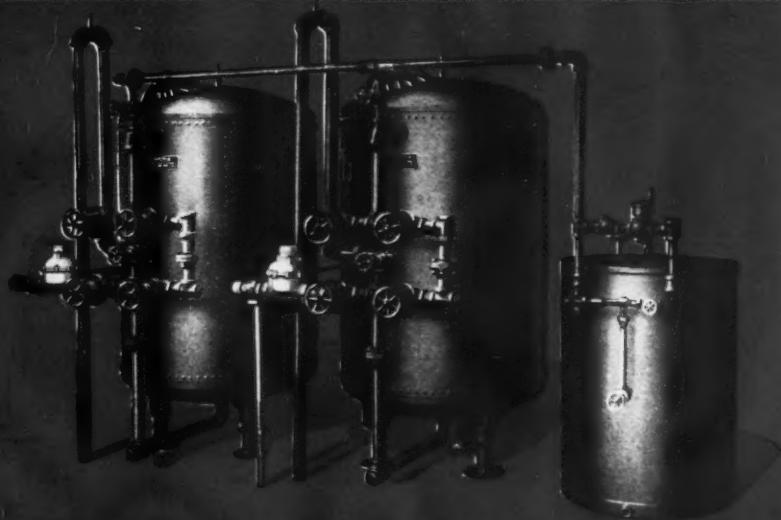
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**THAT GOOD GULF GASOLINE  
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Engineers have discovered through practical experience that the principle of the Wayne Water Softener assures them better operating results.

Water 100 per cent soft, which can be counted upon *absolutely* with the Wayne Softener, means the highest degree of protection from limescale and consequent insulation of the piping.

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Wayne Tank & Pump Co. of Canada, (Limited), Toronto, Ontario, Canada

Wayne Tank and Pump Company, 9 Kingsway, London, W. C. 2, England

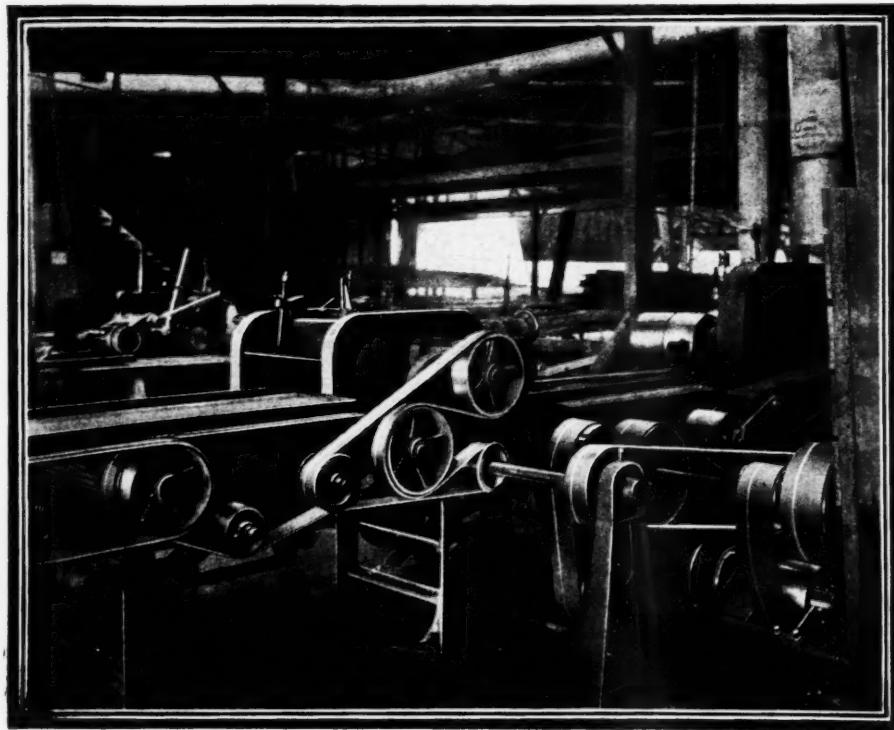
Division Offices in: Atlanta, Birmingham, Boston, Chicago, Cincinnati, Cleveland, Columbus, Dallas, Dayton, Des Moines, Detroit, Indianapolis, Jacksonville, Kansas City, Milwaukee, Minneapolis, New York, Omaha, Peoria, Philadelphia, Pittsburgh, San Francisco, St. Louis and South Bend

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**Water Softeners**  
For Household and Industrial Purposes



## TEST SPECIAL RUBBER BELTING

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Drives such as these test the staying qualities and efficiency of a belt. High speeds over small pulleys, intermittent loads, idler pulleys and a minimum of supervision and care of the belt equipment.

Test Special Rubber Belting, because of its flexibility, lack of excess stretch, pulley grip, and waterproof qualities, is a most satisfactory and economical belt for all drives in the lumber mill and woodworking plant.

For the purpose of assisting belt users to figure their requirements, we have prepared a booklet "Belt Engineer-



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THE established reputation for Plymouth Rope Quality is well understood in every field of operation, especially among construction workers. It is a reputation that has been justly earned through a century of ropemaking, founded upon the idea and purpose of producing a rope of the proper quality and construction best suited for the individual requirements of the user.

Plymouth Manila is a standardized rope that will give unfailing service in strength and wear. We are careful of this reputation. The Plymouth standards of fiber selection, lubrication, preparation and construction guarantee that it will be sustained and that the user in specifying for Plymouth will receive rope of uniform quality.

Send for a copy of our free booklet  
"The Use and Care of Rope"

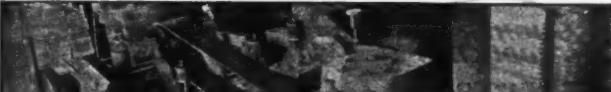
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North Plymouth, Mass.

Welland, Canada



# PLYMOUTH *The Rope You Can Trust*



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**THE NORWICH BELT MFG. CO., INC.**

UNITAN LEATHER BELTING

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For Efficiency Always

**CHESAPEAKE STITCHED CANVAS BELTING**

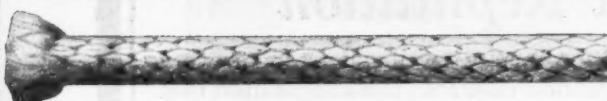
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CHESAPEAKE BELTING CO.  
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is adapted to many special purposes in connection with manufactured products wherever a smooth, round, firm cord is required. It is far more durable in running over pulleys and for many other uses than twisted cord; chain, wire or leather.

### Samson Cord

is used extensively in connection with the manufacture of automobile accessories, bags, books, drums, electrical supplies, garters, horse equipment, safety devices, shoes, suspenders and a great many others. About the factory itself, it is used with drives, dampers, elevators, fire doors, hoists, windows, ventilators, etc.

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Samples and further information gladly sent on request.

**Samson Cordage Works**  
Boston 9, Mass.



Trade Mark

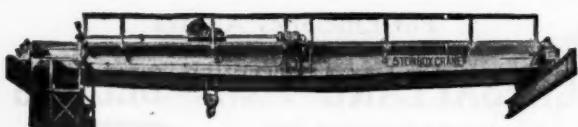
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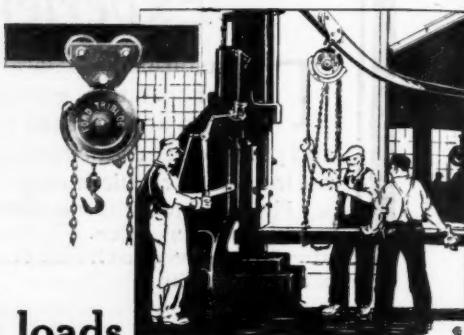
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Electric Hoists  
Chain Hoists

"BUILT WITH THE EXPERIENCE OF YEARS"

Established 1878

**BOX CRANES**  
ALFRED BOX & COMPANY, INC. PHILA. PA.

## FORD TRIBLOC



Lifts loads  
with speed and safety

THE Ford Tribloc Chain Hoist lifts its load speedily and easily and lowers it accurately into place. Rugged construction and well-balanced drive insure smooth operation under all conditions—the Tribloc never jams, jerks, or backslides under its proper load.

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**U. S. Oak Tanned  
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BELTING CEMENT and DRESSING  
OLD LEATHER BELTING RENOVATED and MADE OVER

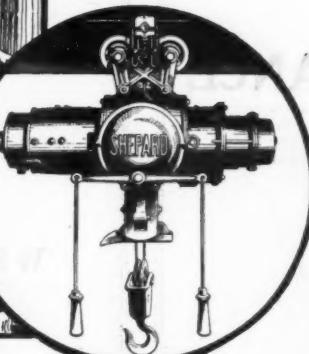
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Large and Complete Stocks

Having our own belt shop, we can guarantee our product and our deliveries.

Unexcelled for use in damp and steamy places.

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**THE SHEPARD ELECTRIC  
LIFTABOUT**



## Two, three, four, often more men released for other work

THIS powerful little electric hoist has displaced many of the expensive improvised and manual methods for moving and lifting loads.

Every LIFTABOUT in service, and it is used in practically every business and industry, is showing an actual dollars and cents saving.

It brings to this branch of a business not fluctuation and uncertainty, but permanent "help" that releases two, three, four, often more men for other work, at a cost no greater than one laborer would draw in wages for a few months' work.

Standardized manufacture and quantity production make the LIFTABOUT low priced. It has same features that have made "Shepard" the most widely used electric hoist in America.

## FREE BOOK on low cost load-moving and lifting

The coupon filled in and returned to us or a written request brings you a free copy of our 68-page book, in which are pictures of actual installations of LIFTABOUTS in nearly 50 different lines of business, and facts and figures on the economies effected. SEND TODAY for your copy.

**Shepard Electric Crane & Hoist Co.  
362 Schuyler Ave. Montour Falls, N. Y.**



## Economies like these for your business

**"\$6,000 cut in handling cost"**

For the Crex Patent Column Co., Chicago, the LIFTABOUT not only saved this amount in handling heavy cement-filled columns, but increased output 25%.



**"Return its cost every 4½ months"**

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A LIFTABOUT in the hay, flour and feed warehouse of John Frost, Watkins, N. Y., has doubled storage capacity.



**Shepard Electric Crane & Hoist Co.  
362 Schuyler Ave., Montour Falls, N. Y.**

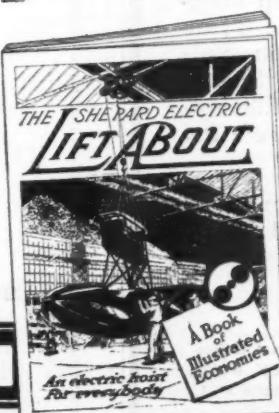
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**THE L. S. STARRETT CO.**  
The World's Greatest Toolmakers  
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ATHOL, MASS.

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## Starrett Hack Saws



5562

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*Established 1863*

### We Manufacture

Bolts, Nuts, Washers, Picks, Crow Bars, Wedges, Car and General forgings, Upset Bridge and Boiler Rods, Drop-Forgings, Wagon forgings, Singletree trimmings, Telephone and Telegraph Pole Line Hardware, Screw Railroad Spikes, Boat Spikes, Harrow Teeth, Elevator Chain Links, Steel Bars and Concrete Reinforcement Bars.

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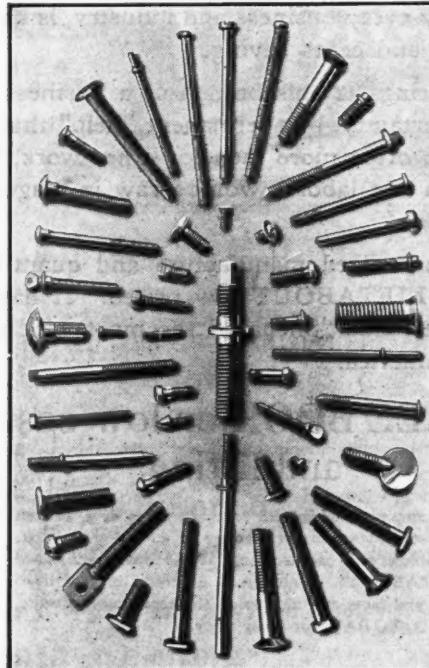
Time and money Savers For Shops.

Our portable Tool Stands are easily moved anywhere.

They carry any load anywhere. The modern way is to take your tools, vise and bench to your work.

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## MANUFACTURERS RECORD.

25

**GURNEY BALL BEARINGS  
ARE BETTER**

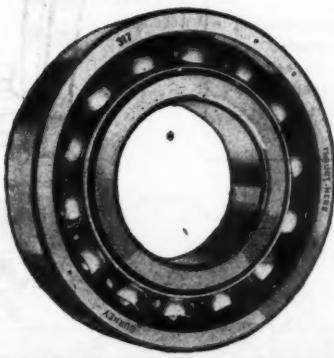
Their Greater Load Capacity (for their size) than other bearings makes Gurney's best for replacement work.

The new pressed steel separator, recently adopted after years of trial, adds the final touch that places Gurney Bearings in the foremost position.

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Flexible shaft equipments for grinding, polishing, drilling, reaming, scraping, scratch brushing, power screw driving and nut setting.

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### OUR SPECIALTY FAMOUS EMPIRE GAS COAL

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Moisture	1.45 %
Volatile Matter	36.57 %
Fixed Carbon	58.63 %
Ash	2.35 %
	100.00 %
Sulphur	0.93 %
B. T. U.	14,986 Btu

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MANUFACTURERS OF

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A new development in gear design with a tooth that is strongest at the base where others are weakest. Spur, herringbone, helical, and spiral types, from 2 in. to 40 ft. diameter.

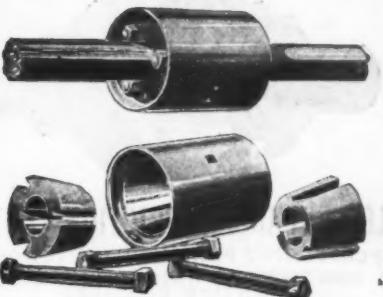
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The **W. B. WOOD SONS CO.** Line

CLUTCHES



COUPLINGS

The Double Cone Compression Coupling, as we make it is absolutely the strongest coupling of the compression type. It will transmit full capacity of shafts and keep them in true alignment under all conditions.

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## POWER THAT PAYS

The Power That Pays is the power delivered to the operating equipment, and "paying" power means much these days in producing dividends.

And you can't "just forget" the losses in faulty pulleys and bearings. You may be willing to pay for the wasted power, but every point of friction is a potential source of breakdown and delay.

Cresson-Morris transmission machinery reduces losses and ensures against shutdowns. It delivers Power That Pays.

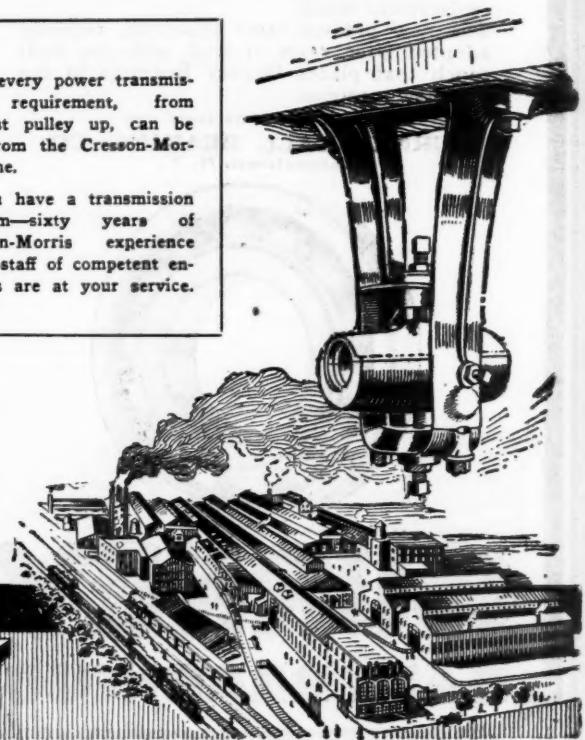
**Cresson-Morris Company**  
Engineers—Founders—Machinists

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Your every power transmission requirement, from smallest pulley up, can be met from the Cresson-Morris Line.

If you have a transmission problem—sixty years of Cresson-Morris experience and a staff of competent engineers are at your service.

2145-X



Cresson-Morris Plant, Philadelphia, Pa.

(Continued from page 26)

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### FRICITION CLUTCHES



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SIMPLEST, MOST POWERFUL CLUTCH MADE  
ONE POINT OF ADJUSTMENT—NO  
ATTENTION REQUIRED  
HAS VERY FEW PARTS—NO  
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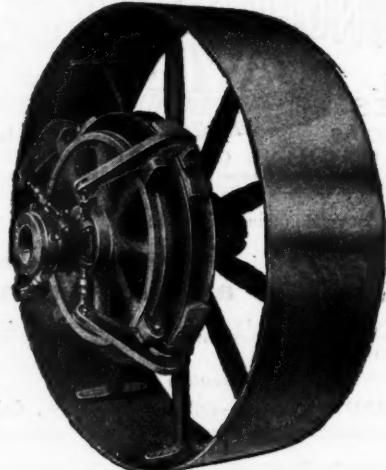
IT MAKES NO DIFFERENCE WHETHER THIS CLUTCH IS IN A DRY, WET, CLEAN OR DIRTY PLACE, IT CAN BE COVERED WITH DUST AND DIRT AS IN A CEMENT OR STONE CRUSHING PLANT OR WATER CAN BE DRIPPING ON IT AND IT WILL DO THE WORK JUST THE SAME.

WE ALSO MAKE A COMPLETE LINE CONVEYING AND POWER TRANSMITTING MACHINERY.

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### V-Groove Friction Clutches

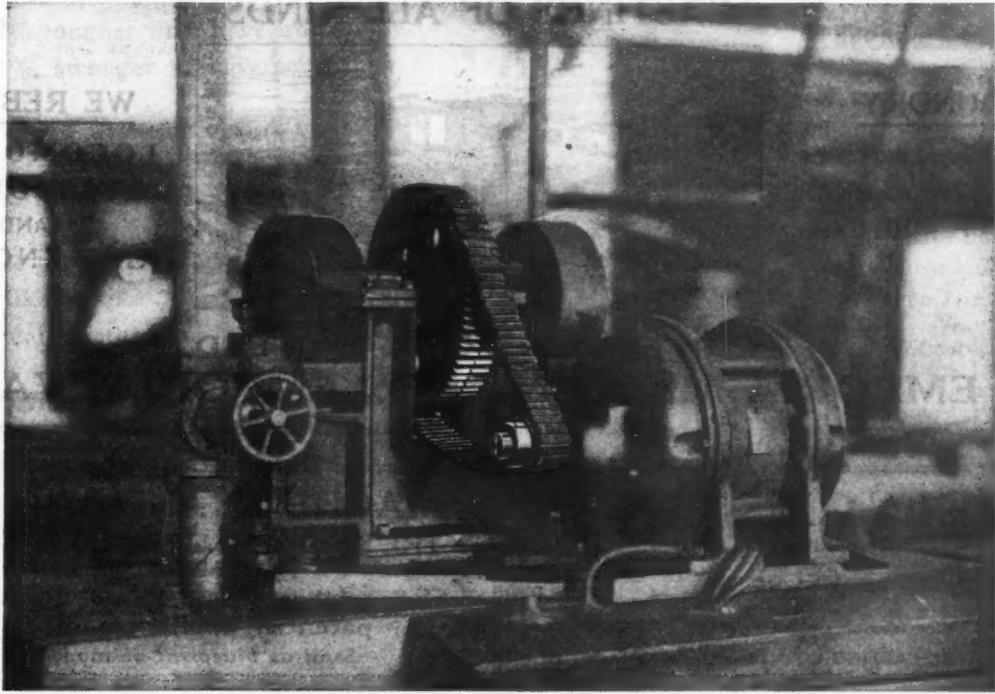
Easy to install—economical to maintain. Built either solid or split, with removable, extended sleeve. No shock or jar in starting. Send for booklet, "The Clutch that Clutches"—a treatise on friction clutches and their economical application to industry.

**THE MEDART COMPANY**  
(Formerly Medart Patent Pulley Co.)

General Offices and Works: St. Louis, U.S.A.  
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**MEDART means EVERYTHING in LINE SHAVING EQUIPMENT**

# MORSE DRIVES



## Chosen for its efficiency and REAL economy

The "Walda" Dyeing Machine head, illustrated, driven by a Morse Silent Chain, is well known for its high efficiency. It is one of the several of these Morse Chain equipped machines used in the plant of the Thomas Dawson Co., Philadelphia, Pa.

The Walker & Davis Co., who manufacture the "Walda" head, in keeping with a policy to carry dependability and service to every point in its textile mill and dyeing, assign the job of transmitting power to Morse Silent Chain.

Morse Silent Chain Drives transmit 99% of power with positive speed ratios, uniform smoothness of operation, and a minimum of upkeep. They require less attention than belt drives, and possess the added feature of greater durability and flexibility of speed.

Morse Engineers with their wide experience in planning drives for the textile field can be of considerable assistance to you in the selection of the proper drive for each machine.

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### There is a Morse Engineer near you

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CHARLOTTE, N. C.....404 Commercial Bank Bldg.  
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CLEVELAND, OHIO.....Engineers Bldg.  
DETROIT, MICH.....7901 Central Avenue  
KANSAS CITY, MO..Finance Bldg., Morse Eng'g Co.  
NEW YORK CITY.....30 Church St.

MINNEAPOLIS, MINN.,  
So. 3rd St., Strong-Scott Mfg. Co.  
MONTREAL, St. Nicholas Bldg., Jones & Glascow, Reg'd  
PHILADELPHIA, PA.....Franklin Trust Bldg.  
PITTSBURGH, PA.....Westinghouse Bldg.  
SAN FRANCISCO, CAL.....Monadnock Bldg.  
ST. LOUIS, MO...Chemical Bldg., Morse Eng'g Co.  
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**Shear Spin Sprocket**



**Spring Sprocket**

"Morse" is the guarantee always behind the efficiency, durability and service

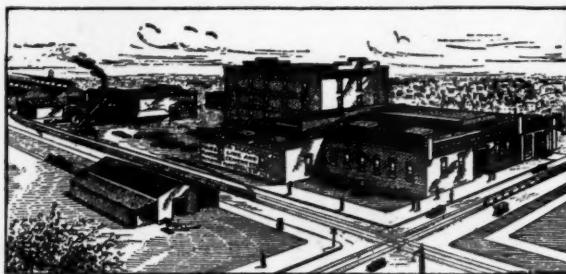
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We Manufacture  
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**STATIONARY**  
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**GAS ENGINES**

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Suitable for Dogs, Clamps, Wheels, Pinions and other castings where strength is required.  
Used almost exclusively for Automobile Work.  
Quick deliveries. Your inquiries solicited.

CRUCIBLE STEEL CASTING CO., Lansdowne, Del. Co., Pa.

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*All shapes of castings up to 50 Tons.*



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Specializes in machine, jig work and patented appliances of all kinds  
*Send us blueprint or model for prices*

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Any kind from 1 lb. to 10 tons

Saw mill, mining machinery, motor truck, heavy or light castings for any purpose. Fast deliveries to the South. Send us an inquiry.

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August 2, 1923.

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- Are harder than gray iron.
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- Are 100% greater in tensile strength than gray iron.
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- Castings to 30,000 pounds.

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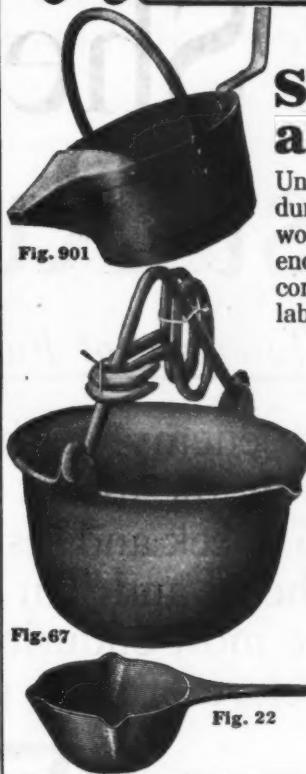


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**MULLINS****Pressed  
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Facings, Plumbago, Core Compound,  
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The destructive enemy of sheet metal is *rust*. It is successfully combated by the use of protective coatings, or by scientific alloying to check and resist rust. A proper *alloy of copper* makes Steel Sheets and Tin Plates last longer—very much longer. It is the most enduring base material that can be used for the manufacture of these products.

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Keystone is the *original copper steel*, and is better because it has been carefully developed over years of time. Its every improvement has been the result of extended study and research. Does it last longer? Read the 1922 report of actual time and weather tests of the American Society for Testing Materials—or send for our booklet "*The Testimony of a Decade*," which will give you the facts in condensed form. If you use sheet metals, read this booklet.

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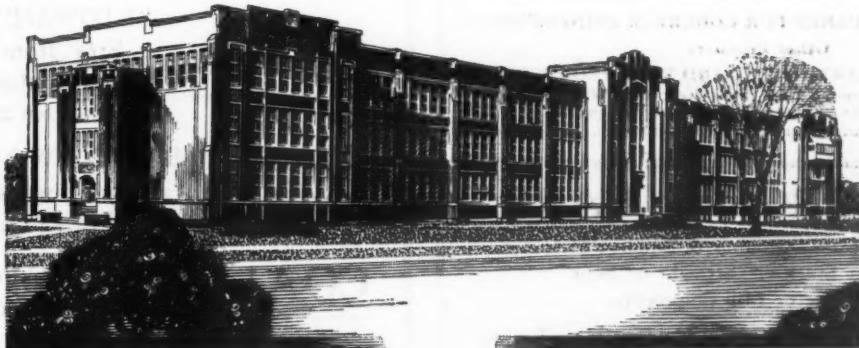
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General Offices: Frick Building, Pittsburgh, Pa.

MANUFACTURERS OF

Sheet and Tin Mill Products for all purposes—Black Sheets, Galvanized Sheets, Tin and Terne Plates, Special Sheets for Stamping, Corrugated and Formed Roofing and Siding Materials, Electrical Sheets, Wellsville Polished Steel Sheets, Automobile Sheets in all grades, Deep Drawing Sheets, Stove and Range Sheets, Black Plate, Etc.



We manufacture Steel Sheets and Tin Plates for all purposes; for building and construction, for stamping, drawing, and forming in every field of industry to which sheet metal is adapted.



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Keystone Copper Steel Sheets used for the sheet metal construction, by J. A. Johnson & Sons Sheet Metal Works.*

# Apollo-Keystone

AMERICAN SHEET AND TIN PLATE CO.  
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Copper Steel Galvanized Sheets  
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Our products represent the highest standards of quality and utility—and are made by craftsmen of skill and experience whose worthy ambition is to serve you well. If you have a sheet metal problem involving the use of standard products or special sheets to meet specific requirements—write our nearest District Sales Office. Every sheet metal shop and office should have a set of our revised weight cards for Black and Galvanized Sheets.

## American Sheet and Tin Plate Company

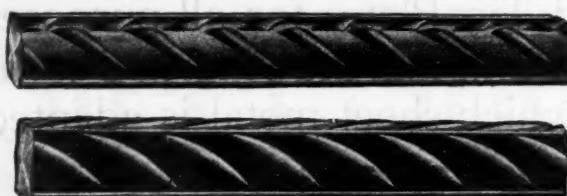
General Offices: Frick Building, Pittsburgh, Pa.

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**GULF STATES STEEL COMPANY**  
BIRMINGHAM, ALA.  
**DEFORMED BARS**



ROUNDS AND SQUARES FOR CONCRETE REINFORCING

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BASIC OPEN HEARTH STEEL AND WIRE PRODUCTS:  
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Deformed. All Sizes. Rounds & Squares  $\frac{1}{4}$ " to  $1\frac{1}{4}$ ".  
New Billet Stock. Straight or Bent.  
Warehouse or Mill Shipments.

KNOXVILLE IRON CO. Knoxville, Tenn.



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INCORPORATED

**COKE ALLOYS SCRAP**

Communicate with us at

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*Manufacturers and Producers.*

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"ETOWAH" Machine cast—  
Free from Sand and Slag  
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pendable analysis.

**COKE**

"BROOKWOOD" for foundry  
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Hand picked and selected.

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We are moving our products.

**Why?**

The **QUALITY** is right and  
the **PRICE** is right.

**REINFORCING BARS**

All Sizes Round & Square  
METAL LATHS—EXPANDED METAL  
NAILS, WIRE WALL PLUGS, WALL TIES.  
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"Manufacturers of our su-  
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Bar, also Merchant Bar. Can  
make prompt delivery."

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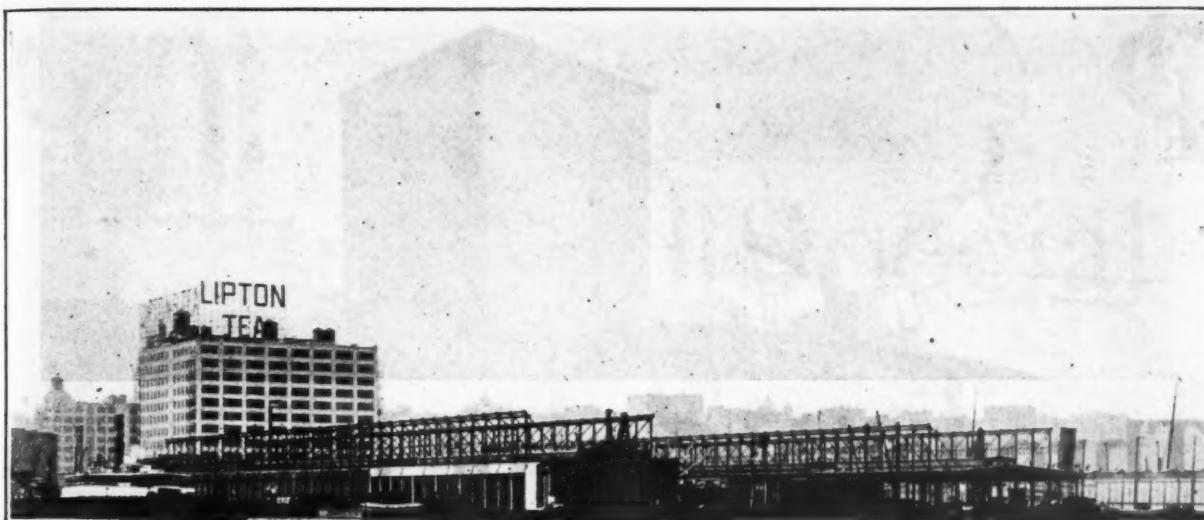
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**WHEELING STEEL CORPORATION**  
WHEELING, W. Va.

Lamport & Holt Piers Nos. 1 and 2, New York City. Henry Steers, Inc., New York City,  
Architects. Newark Cornice & Skylight Works, Newark, N. J., Sheet Metal Contractors

### MEET YOUR RUST PROBLEM WITH

**ARMCO** TRADE MARK **INGOT IRON**

THE architects, in designing the big Lamport & Holt piers in New York City specified 100 tons of ARMCO-Ingot Iron roofing and siding.

ARMCO-Ingot Iron is carefully refined; the rust-promoting impurities are reduced to less than one-sixth of one per cent. This high

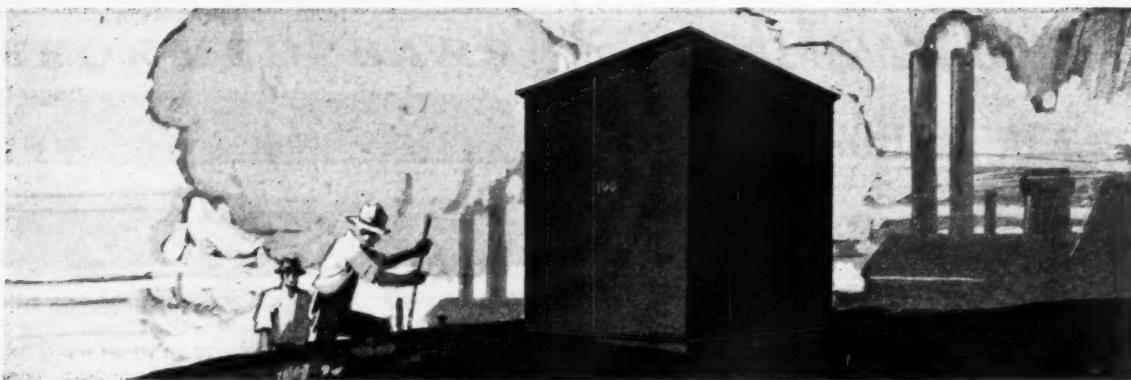
purity iron is dense and uniform, but is easily workable into difficult shapes. It takes an exceptionally pure coating of zinc which further protects it from rust and corrosion.

You can identify ARMCO-Ingot Iron by the *blue triangle* stamped on every sheet.



**THE AMERICAN ROLLING MILL COMPANY**  
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In developing OHIO METAL this thought was kept constantly in mind and this better steel is proving out the faith of its makers. Under conditions of cold, heat, rain, this practical, scientific amalgamation of copper

and Good Steel is displaying a degree of durability good for many years wear beyond the life of ordinary steels and the slightly higher first cost is completely absorbed in the lowered year-to-year cost that OHIO METAL'S added length of service makes possible.

Let us give you the details of this better Copper Alloyed Steel.

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## Confidence

To all outward appearances two pieces of steel are very much the same. The purchaser must depend to a great degree on the integrity of the steel maker.

Carnegie Steel Company controls the manufacture of its various products from the ore in the ground to the finished material. Thus, every separate stage of production is under careful supervision. The name "Carnegie" is our pledge to the purchaser—a pledge that we have endeavored to make the best steel we know how.

The popularity of "Carnegie" products is evidence that confidence has not been misplaced.

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*Quality Right—Service Unexcelled*



# Tennessee Special Tool Steel



A high grade carbon tool steel, with a well earned reputation for quality and reliability. All principal sizes in stock, either annealed or unannealed. Send for stock list.

Other special products are  
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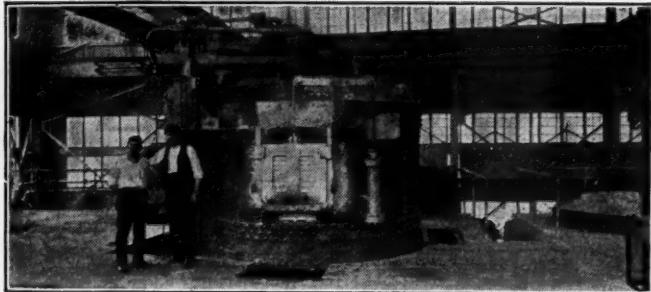
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*Manufacturers of Steel Structures of all classes, particularly*

## BRIDGES and BUILDINGS



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*We also furnish and install*

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OF EVERY DESCRIPTION

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Shipments from Stock or Mill. Large stock of  
Galvanized Bars, Bands, Hoops, Shapes, Etc.  
No specification too large or too small  
for us to quote on

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*Manufacturers of*

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ATCH US

*The Foundation Company, Contractors.**Mr. Charles S. Landers, Engineer.**Mr. Kenneth Murchison, Architect.*

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## West Side Tennis Club Stadium

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**NEW BILLET STEEL**

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Plain and Fabricated, for All  
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Incorporated

BALTIMORE, MD.

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BRASS CASTINGS  
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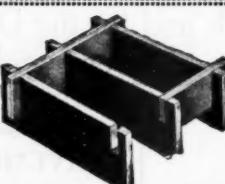
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Plain Squares, Deformed Squares,  
Twisted Squares

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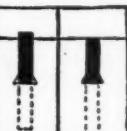


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Also makers of Standardized Metal Gaging ("E.M.G.")



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Structural Steel and Steel Lumber  
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FOUNDED 1847  
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For  
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and the Building Trade  
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## MANUFACTURERS RECORD.

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Immediate Shipment of all  
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Engineers, Fabricators and Erectors  
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Large Stock of Standard and Bethlehem Shapes  
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**STRUCTURAL STEEL**  
for Buildings and Bridges  
PROMPT SHIPMENT  
**JOHN EICHLEAY JR. CO.**  
Pittsburgh, Pa.**FARRIS BRIDGE COMPANY**

Bridges, Coal Tipple, Mill Buildings.  
Toll Bridges Financed and Built.

At pre-war prices

CHARLESTON, W. VA.      CUMBERLAND, MD.

**Steel Buildings & Bridges**  
Annual Capacity 400,000 Tons  
Write for Booklet  
**McClintic Marshall Co.**  
Pittsburgh

# "Perfect" Wire Cloth Means Long Service

Screens made of "Perfect" Wire Cloth are essentially long service screens.

They have all the inherent resistance to abrasion and corrosion that can be obtained from the finest quality of wire procurable—a wire made for us in accordance with rigid specifications.

The Double Crimp feature provides great strength and insures against slippage of wires and spreading of mesh. This means that "Perfect" screens can be kept in service until they are absolutely worn out.

Inasmuch as the service life of any screen is limited to the length of time it will render uniform results, and in view of the fact that many screens must be taken out before they are worn out, it will be quickly apparent how valuable the ability of "Perfect" Screens to last long and give uniformity as long as they last really is.

Because of its uniformity and its long-wearing qualities, "Perfect" Wire Cloth has demonstrated to thousands that it is by far the most satisfactory and economical for every screening purpose. Our Screen Book is mailed on request.

## The Ludlow-Saylor Wire Co.

ST. LOUIS, MO.

**Branch Offices:**  
**Felt Bldg., Salt Lake City, Utah; Martin Bldg., El Paso, Tex.;**  
**20 E. Jackson Blvd., Chicago, Ill.**

# DUFUR, BAGGOTT & CO.

## **BRASS AND STEEL WIRE WORK OF EVERY DESCRIPTION**

### Absolute Prompt Delivery

**Bank Work** **Elevator Enclosures** **Elevator Cabs**  
**Counter Railings** **Grills** **Wickets** **Guards**  
**Partitions** **Skylight Protectors.** **Etc.**

**403 N. PACA STREET**

**BALTIMORE, MD.**

An advertisement for the New Jersey Wire Cloth Company. The top half features a large diamond-shaped wire mesh pattern with the word "JERSEY" in the center. Above this is the text "ALL GRADES OF WIRE CLOTH MADE OF ALL KINDS OF WIRE". Below the diamond pattern, the word "WIRE" is split vertically, with "WI" on the left and "RE" on the right. To the left of the diamond is the text "WIRED NETTING" and "WIRED LATH". To the right is the text "CLOTH" and "WIRED FENCING" above "WIRED WORK". The bottom half contains the company name "THE NEW JERSEY WIRE CLOTH COMPANY" in a bold, serif font, with "MAIN OFFICE: TRENTON, NEW JERSEY" underneath.



**Dufur & Co.**

**509 W. FRANKLIN ST.  
BALTIMORE, MD.**

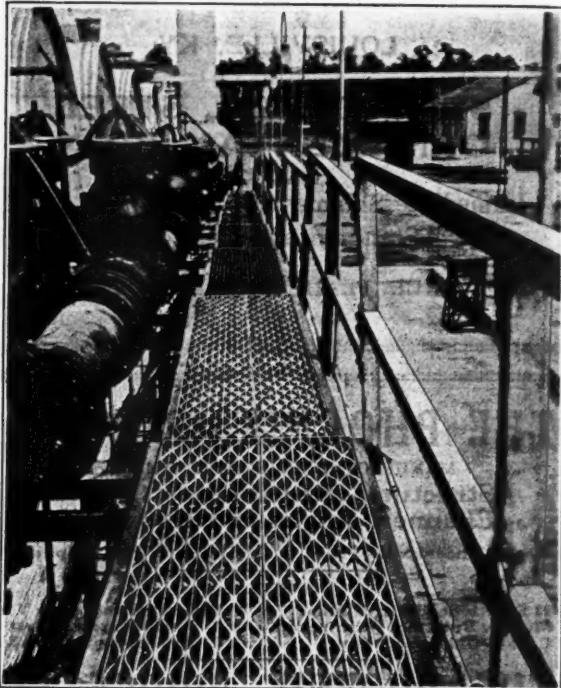
*Manufacturers of*  
**IRON AND WIRE BANK WICKETS  
RAILINGS AND WINDOW GUARDS**



**WIRE CLOTH—WIRE WORK  
and ARTISTIC METAL WORK**  
of all kinds  
for all purposes.

Catalog No. 8-V mailed gratis upon request  
**BUFFALO WIRE WORKS COMPANY**  
(formerly Scheeler's Sons)  
474 TERRACE BUFFALO, N. Y.

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# IRVING SUBWAY

TRADE MARK  
(PATENTED)  
REG. U.S. PAT. OFF.  
THE FIREPROOF VENTILATING FLOORING

The unexampled diversity of the uses to which Irving Subway has already been put, gives Irving engineers an unequaled perspective upon industrial flooring problems. There are cases where Irving Subway would not be the best flooring to use—but they constitute only a small percentage of the total requirements for industrial flooring. In the vast majority of cases—particularly if the flooring problem be handled as a problem in industrial and engineering efficiency—Irving Subway is the one logical buy. Let us send Catalog 3A9.

# **IRVING IRON WORKS CO.**

LONG ISLAND CITY, N.Y., U.S.A.

### **Manufacturers of**



# The Way to Better Metal Work



We manufacture a variety of ornamental metal and wire work in iron, brass, steel, copper, bronze and aluminum. These include elevator enclosures, iron gates for drives, marquise, window guards, fire escapes, machinery guards, etc., and like all other Wickwire products, years of experience enables us to produce a product second to none.

*Write for catalog illustrating  
and describing our full line*

**Wickwire Spencer Steel Corporation**  
41 E. 42nd St., New York

Worcester

Chicago

Buffalo

San Francisco

Detroit

# Frink Reflectors

For  
 BANKS                   STORES  
 HOTELS               CHURCHES  
 HOSPITALS           LIBRARIES  
 PUBLIC BUILDINGS

Our Engineering Department will be glad to give you detailed information and recommendations on receipt of sufficient details.

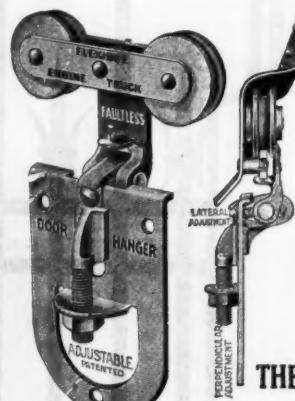
**I. P. FRINK, Inc.**  
 24th St. and 10th Avenue  
 NEW YORK

Philadelphia, Pa.  
 Franklin Trust Bldg.

Birmingham, Ala.  
 426 Jefferson Co. Bank Bldg.

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### MYERS FAULTLESS DOOR HANGERS and

#### Self-Cleaning Track.

Don't overlook your sliding doorways—make them a part of your system of efficiency by using them on the barns, sheds, garages and other buildings you erect. Tight fitting, draft proof, weather resisting, doorways that can be adjusted up or down, or in or out, and be opened or closed during all weathers are FAULTLESS.

Let us send literature and quote.

**THE F. E. MYERS & BRO. CO.**  
 ASHLAND, OHIO

# DEXTER METAL LOCKERS

OVER ONE MILLION PEOPLE USE  
 OUR LOCKERS EVERY DAY

HIGH CLASS GOODS  
 REASONABLE PRICES

## GOLF CLUB LOCKERS

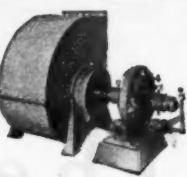
Steel Shelving for Every Situation—Equipment for Hotels, Clubs, Apartments, Etc.

**Dexter Metal Mfg. Co.**

No. 9 North Front St.

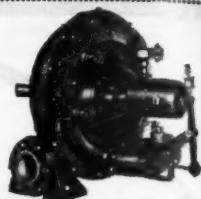


Camden, N. J.



We Build

Turbine Blowers  
 Steam Turbines  
 Centrifugal Blowers  
 Stoker Fans  
**Carling Turbine Blower Co.**  
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### Iron Fence and Entrance Gates

For Every Purpose  
**LAWN VASES SETTEES**  
 General Iron and Wire Work

#### Dealers Wanted

THE STEWART IRON WORKS CO., Inc., 535 Stewart Block, CINCINNATI, O.

### "THE CANTON LINE"

of Improved STEEL CEILINGS, Metal Shingles  
 and Copper Bearing Tin Plate

**THE CANTON ART METAL COMPANY**  
 CANTON, OHIO

**METAL CORNICES, VENTILATORS**  
**SKYLIGHTS WINDOWS MARQUISE**  
**GENERAL SHEET METAL WORK**  
**C. P. TANNER HENDERSON, N. C.**

# GLASS

For All Building Purposes

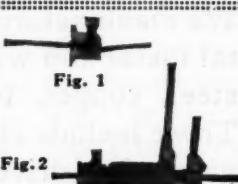
**HIRES TURNER GLASS COMPANY**

WASHINGTON

ROCHESTER

ALBANY

PHILADELPHIA



### UNIVERSAL CLAMPS

For Concrete Forms. Low in first cost. Simple, secure, speedy. Six sizes.

Fig. 1. Rod "kinked" and held secure.  
 Fig. 2. Rod tightened used before set-screw is tightened.

Write for Catalogue of all Universal Specialties  
**UNIVERSAL FORM CLAMP CO.**  
 972 Montana St., Chicago, Ill.

**M & M**  
**ADJUSTABLE FORM CLAMPS**  
 for wall or column forms  
**SIMPLE—DURABLE—LABOR SAVERS**

*Use Them on Every Job  
 and Make More Money*

Shoot your concrete at **M & M Targets**,  
 Simple, Inexpensive, Adjustable Gauges  
 for leveling concrete slabs.

A free sample clamp or target and illustrated catalog will be sent on request.

**M & M Clamps** are made in two sizes  
 No. 1 for 4 x 4's or 4 x 6's—No. 2 for  
 2 x 4's or 2 x 6's.

**M & M CLAMP CO.**  
 2 Fifth St., S. E. Minneapolis, Minn.

August 2, 1923.

MANUFACTURERS RECORD.

*1919*

# *Yesterday's Performance*



The Field Museum, Chicago. Architects—Graham, Anderson, Probst & White. Contractors—Thompson-Starrett Company  
The Field Museum has one-half million square feet of Masterbuilt Floors

**A**LMOST without exception the builders decision to install Masterbuilt Floors today is based on his successful experience with them in the past.

For example, Masterbuilt Floors were specified for the Union Trust Company's New Building, Cleveland, because they had—in the opinion of the architect and the contractor — given unqualified satisfaction in the New Field Museum which they had erected in Chicago four years ago.

When completed the Union Trust Company Building will have one million square feet of Masterbuilt Floors.

**The  
Master Builders Company**  
Cleveland, Ohio  
Factories in Cleveland and Irvington, N. J.  
Sales Offices in Eighty Cities

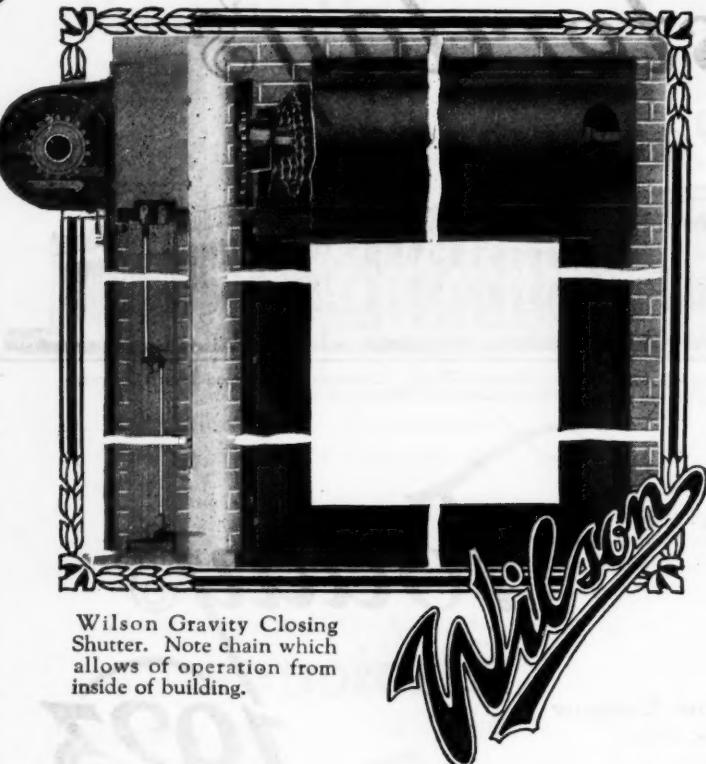
# Determines *Today's Choice*

**The Union Trust Company**  
Cleveland, Ohio

Architects:  
Graham, Anderson, Probst & White  
Contractors:  
Thompson-Starrett Company

*1923*

# **Masterbuilt Floors**



## Protection Against Fire from Adjoining Buildings

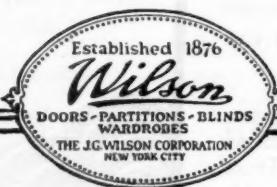
**I**F YOURS is a problem that has to contend with fire in adjacent buildings, we recommend for your consideration our gravity closing shutter.

It is entirely self closing either through the fusing, at approximately 160 degrees, of a link on the outside of the building, or it can be closed by hand from inside the building by merely unhooking a chain which holds the automatic device in check. In either event the closing is automatic and positive. After closing, new fuses can be inserted and the shutter reset from inside of the building.

Send for our new catalogue which fully describes the entire line of Wilson Steel Doors and Shutters.

**The J. G. WILSON Corporation**  
8 EAST 36TH STREET, NEW YORK CITY

OFFICES IN ALL PRINCIPAL CITIES



## ROLLING STEEL DOORS

Manual Chain or Motor Operation

### KALAMEIN AND TIN CLAD DOORS

Approved by National Board of Fire Underwriters

Manufacturers of Galvanized Roofing and Siding, Metal Shingles, Tile and Sheet Metal Building Materials.

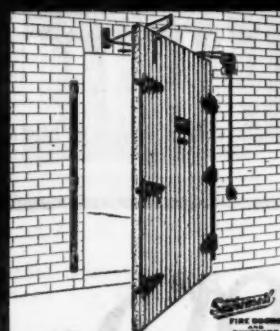
**THE MOESCHL-EDWARDS CORRUGATING CO.**  
CINCINNATI, OHIO

## STANDARD TIN CLAD FIRE DOORS AND SHUTTERS

Manufacturers of

Steel Rolling Doors and Shutters  
Cross Horizontal Folding Doors  
Kal-O-Mine Art Doors  
Hollow Art Metal Doors  
Underwriters' Iron Fire Doors  
Vamanco Freight Elevator Doors  
Varclad Freight Elevator Doors  
Fire Door Hardware

**PHILIP H. LENDERKING**  
BALTIMORE, - - MARYLAND



## THE *Sainomele* FIRE DOORS AND SHUTTERS

### Temporary or Permanent Protection—Which?

It has been demonstrated that the Tin-Clad Door with wood filler, serves the purpose of a fire retardant only when it is new.—After a few years service replacement is necessary, due to dry rot and decay. The "SAINOMETL" meets every requirement from the standpoint of protection.—It will outlast the building and pay dividends in saved maintenance, reduced insurance and increased and permanent fire protection.

Address Dep't. R for Copy Of Our Catalog

Type No. 104—Equipped with the "F. L. SAINO" Patented Hinge and Latch.

**The F. L. Saino Manufacturing Co., INC.** MEMPHIS  
TENN.

"The Door  
that Stands  
the Test"



### The most widely used Sanitary Fountain

The PURO Jr. Sanitary Fountain is giving better satisfaction and is more widely used than any other fountain on the market. The bowl prevents the lips from touching the bubbler, thereby eliminating all dangers of disease germs.

Made of cast bronze metal, heavily nickel plated, can be adjusted to any supply pipe and furnished with vertical or cross bowl bubbler. Many are now in use in large cities as they fulfill state health laws.

*Write for full information*

**Puro Sanitary Drinking Fountain Co.  
Haydenville, Mass.**

### Pure Drinking Water Keeps Workmen Healthy



Physiologists agree that in order to keep the body in a normal state of health, a man should drink the equivalent of not less than seven glasses of water each day. Pure drinking water is a primary requisite for hygienic living and helps to keep the body free from all intestinal disturbances.

Stimulate the efforts of your employees and save their time in going to inaccessible hydrants by piping clear, cold water to them by means of Milwaukee's

### "Famous" Cooler Fountains

This fountain includes a barrel of 1½" thick oak, painted outside; cover of double thickness; galvanized pipe coil through which water passes to drinking head without coming in contact with ice, and a heavy vitreous china bowl with either cast brass bubbling head with self-closing stop or "Vertico-Slant" stream from which glass can be readily filled.

**RUNDLE-SPENCE MFG. COMPANY  
MILWAUKEE** *Write for Catalog* **WISCONSIN**

## M & E "ALMETL"

TRADE MARK REG. U. S. PAT. OFF.

## FIRE DOORS

### SHOULD BE CONSIDERED

When a strong, well made, reasonably priced FIRE DOOR is needed. They are made of steel,—galvanized steel and asbestos,—welded and riveted to heavy steel frames.

### THEY COST NO MORE THAN LESS DURABLE EQUIPMENT

### MERCHANT & EVANS COMPANY PHILADELPHIA

*Offices in principal cities*

*Write for Catalog*

**KINNEAR**  
ROLLING • DOORS



### A Door for Every Purpose

THERE is a Kinnear Door for every need of modern architecture. It gives protection from fire, theft, and weather, for public buildings, factories, warehouses, piers, freight houses, garages, etc.

For durability, perfect action and the utmost economy, leading architects specify Kinnear Steel Rolling Doors. Our Engineering Department will co-operate with you. Ask for illustrated book No. D-10.

**The Kinnear Manufacturing Company  
823-873 Field Ave.** *Columbus, Ohio*



*Introducing*

## "RIVIERA"

A true California Spanish Mission Roofing Tile in a range of soft autumn foliage shades.



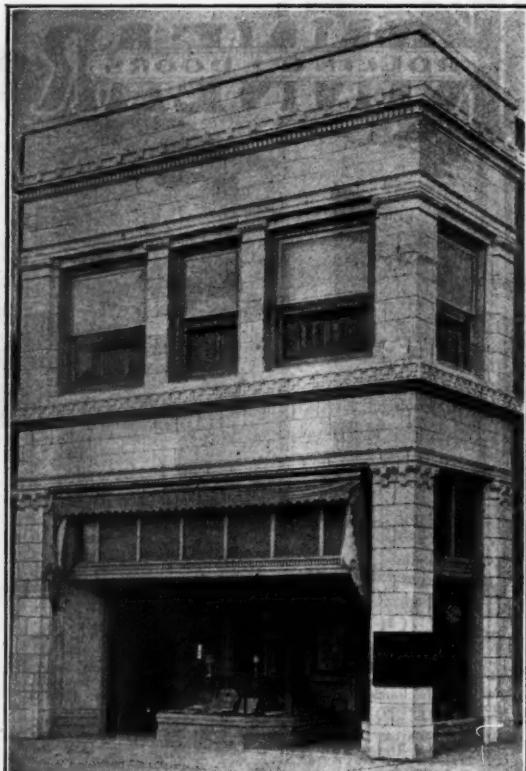
*Unfading—Everlasting—and  
“Within Reach”*

*Manufactured for first time in the East by*

**B. Mifflin Hood Brick Co.**

Atlanta, Georgia

Phone, Hemlock 3100



Store and Office Building, Dr. E. Douglas Hood, Owner  
Tupelo, Miss.  
White matt glazed terra cotta

*Use*

**ATLANTA TERRA COTTA**

*Stock Designs*

in your new building or remodeling operation



*Doing so will*

*reduce the cost for a given amount of terra cotta  
obtain more terra cotta for a given expenditure  
secure quicker delivery*

*Our catalog explains in detail how this  
may be done and illustrates the designs*

*A copy will be sent you on request*

*Plate 5 in our catalog formed the motive  
for the building shown, which houses the  
offices of Dr. Hood and below, the leading  
jewelry store of Tupelo*

**ATLANTA TERRA COTTA COMPANY**

Citizens & Southern Bank Building  
ATLANTA, GEORGIA

*G. Lloyd Preacher & Co., Atlanta,  
Architects, and Foundation Com-  
pany, New York and Atlanta,  
General Contractors.*



## Another Evidence of OCONEE'S Appropriateness

In the erection of the \$500,000 El Verano Hotel at Palm Beach, Fla., recently completed, Oconeé Vertical Hollow Tile was furnished for the construction work. This six story fire proof building contains 164 guest rooms with bath, and sixteen shops will be located on the ground floor.

Oconeé Vertical Hollow Building Tile, the most economical form of permanent construction, is being used more and more each year. Vertical hollow tile gives a circulating air chamber guaranteeing dry walls; needs no painting, and the speed with which it can be laid — thereby reducing laborers' time, effects a great saving.

Oconeé Vertical Hollow Tile meets the requirements of leading architects throughout the country.

*Send for illustrated folder showing its use  
in many of the South's beautiful homes, large  
office buildings and important industrial plants.*

**OCONEE BRICK AND TILE COMPANY**  
MILLEDGEVILLE, GA.

## ENAMELED BRICK TALKS for Architects

### ENAMELED BRICK FOR EXTERIORS

For exteriors there is nothing more attractive than our Enamelled Brick in Mottled effects which we can furnish in endless variety, or plain white can also be used to advantage.

Year after year buildings faced with our product are cleaned by the simple and inexpensive process of washing down with caustic soda and water. Five or twenty years after erection a building so cleaned is to all outward appearances a new structure.

Our Quality is unexcelled.

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For thirty years our product has given universal satisfaction for exteriors—interiors—courts.

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Manufacturers of

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### Discriminating Architects Specify Kingsport Artistic Brick

#### Because

their soft delicate tones lend themselves to ideal architectural effects.

#### Because

they give character and individuality to building exteriors.

#### Because

in the finished structure they best portray the architect's design.

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Located in the heart of the wholesale and retail sections. Well lighted Sample Rooms. Attractive Cafeteria at Popular Prices. Beautifully decorated private dining rooms. Large Ball-room or Convention Hall, seating 500 people. Open Air Roof Garden (Open Season).

Every Room with private bath or shower  
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Fireproof Modern Convenient  
LIGHT AND REDWOOD STS.  
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### Creosoted Cross Ties

Whether your Railroad be Steam or Electric, large or small—you can only afford the best.

Our Creosoted Southern Yellow Pine Hewn Cross Ties are the longest lived and ultimately far the Cheapest.

We also Manufacture and Creosote—Lumber, Switch Ties, Piles, Poles and other products.

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Plants at Jacksonville, Fla. Long Island City, N. Y.

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### AMERICAN CREOSOTE WORKS, NEW ORLEANS, LA. (INCORPORATED)

Creosoted Cross-Arms, Lumber, Paving Blocks,  
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Private free wharf for ocean vessels at New Orleans. Capacity 100 million feet board measure annually. Western Union and A. B. C. 5th Edition Codes. Plant at New Orleans, La. Plant at Louisville, Miss. Winnfield, La.

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Send us your inquiries direct when in the market for creosoted materials of any description, or desire figures for preparing estimates.

### THE SAVANNAH CREOSOTING COMPANY

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PORT WENTWORTH, SAVANNAH, GA  
CREOSOTED CROSS ARMS, LUMBER, TIES,  
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Private Wharf on Savannah River Capacity 50,000,000 Feet B. M. Per Annum  
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A complete and experienced organization in office, factory and field insures the continued maintenance of highest quality and the prompt and satisfactory completion of work.

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Offices: ROCHESTER, N. Y. Factory:  
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### HIGH GRADE SIBLEY FACE BRICK

#### RED, BUFF AND FLASH

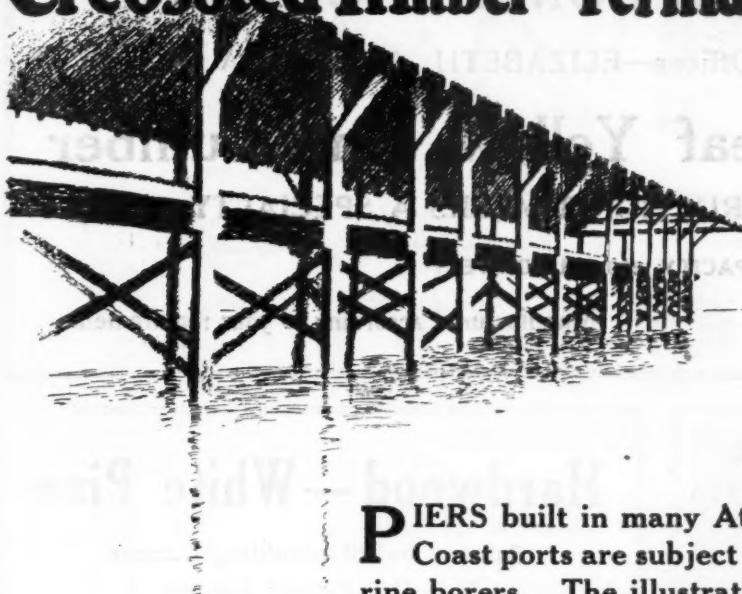
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Virginia's largest and Richmond's most centrally located Hotel. Every car line in the City passes Murphy's. Rooms single and en suite. Railroad tickets sold and baggage checked at Hotel. Main Hotel and Grace Street Annex fireproof. Rates \$1.00 and up

JAMES T. DISNEY, Manager

# Creosoted Timber for Permanent Pier Construction



**P**IERS built in many Atlantic and Gulf Coast ports are subject to attack by marine borers. The illustration on the right is typical of the destruction wrought by these borers within a few months.

Creosote oil properly applied will render all material immune from the attacks of the borers as well as decay.

It is important that all timbers be properly creosoted. Be sure your material is treated in accordance with recommended practice and standard specifications.

We have treated timbers on an extensive scale for the past eighteen years.

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Colonial Creosoting Co., Inc., Bogalusa, La.

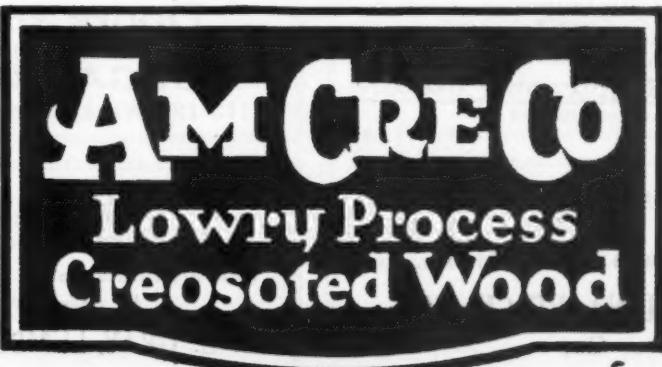
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Sales Offices: 350 Madison Avenue, New York City.

Brunswick, Georgia.

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## Calcasieu Long Leaf Yellow Pine Lumber

RAILROAD AND CONSTRUCTION TIMBERS A SPECIALTY

ANNUAL CAPACITY, 200 MILLION FEET

3 Modern Mills in Louisiana

Manufactured according to your requirements

### MAPLE FLOORING OAK BEECH BIRCH

Moulding and  
Poplar Bevel Siding

JOINTED MAPLE FLOORING  
for use in Cotton Mills  
and other Hardwood Specialties

WHOLESALE

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Manufacturers' Representative

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Cabinet and Shipbuilding Lumber

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MAHOGANY—Lignum Vitae—SIAM TEAK

Oak and Maple Flooring

## McEWEN LUMBER COMPANY

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## BAND SAWED YELLOW PINE

Kiln Dried Flooring, Ceiling, Siding and  
Finishing, Soda Dipped Dimension and  
Joists, Special Structural and Yard Timbers

C. G. HULL LUMBER CO., Laurel, Miss.

Kentucky Lumber Company, Inc.  
Sulligent, Ala.

OUR SHOP GRADE OF ROSEMARY SHORTLEAF  
YELLOW PINE IS USED BY MANUFACTURERS OF FINE  
INTERIOR FINISH AND MILLWORK. Let us describe it fully  
B & Better Rough—Shep—Flooring—Ceiling—Siding—Boards and Hardwoods

### A. S. BACON & SONS LONG AND SHORT LEAF PINE

Rough and Dressed  
SAVANNAH, GA.

Wire, Telephone or Write Us Your Needs

## CAROLINA LUMBER COMPANY

Manufacturers & Wholesalers

Long and Short Leaf

### YELLOW PINE

Maple Flooring—Red Cedar Shingles.

Mills: South Carolina, Georgia, Alabama, and Mississippi  
GREENVILLE, S. C.

### Maple Flooring Is THE BEST Factory Flooring

Where hard usage puts flooring to the supreme test,—in factory,  
warehouse or mill, Maple Flooring is always preferable.  
Write us today for full information as to sizes and grades, also  
delivered prices in any quantity, anywhere.

**E. BARTHOLOMEW HARDWOOD COMPANY**  
4050 Princeton Avenue, CHICAGO

Common Building Brick, Red Dry Pressed  
and Rough Texture Face Brick. Hollow  
Building Tile. Denison "H" Walltile.

**GEORGIA-CAROLINA BRICK CO.**  
Augusta, Ga.

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### Doors and Millwork

WHOLESALE

**MORGAN MILLWORK CO.**  
113-129 West North Ave., Baltimore, Md.

We Specialize in

TIMBERS, LONG JOISTS, FACTORY FLOORING  
and DIMENSION IN YELLOW PINE

And Manufacture

All grades and thicknesses of Southern Hardwood

**C. L. GRAY LUMBER CO., Meridian, Miss.**

# CENTRAL COAL AND COKE COMPANY

*Manufacturers of  
Southern Pine  
Long and Short Leaf*

Mr. Lumber Dealer!

Keep your eye on the car shortage and transportation conditions. If they indicate that you will have difficulty getting shipments, let us have your orders well in advance and thus avoid delay and lost business.

BUILDING PERMITS ISSUED IN CITIES OVER 25,000 POPULATION.

	1922	Buildings	Cost	1923	Buildings	Cost
January	30,392	\$138,799,280		January	41,780	\$206,329,805
February	32,150	139,919,847		February	40,820	228,222,590
March	62,444	262,283,354		March	70,391	397,404,373
April	64,449	212,735,607		April	81,218	330,581,862
May	73,144	247,192,158		May	80,618	267,355,888

First 5 months, 262,579 \$1,000,930,246      314,827 \$1,429,894,518  
NOTE: The construction investment for the first five months of 1923 is practically 50% over that for the first five months of 1922.

## CENTRAL COAL & COKE COMPANY

GS-77

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OFFICES

TRADE

MILLS

Carson, La.

Neame, La.

Conroe, Texas.

KANSAS CITY  
MISSOURI

MARK

BRANCH SALES  
OFFICES

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Mfrs.  
**SOUTHERN PINE**  
*Long and Short Leaf*



**FOR ALL TYPES OF STRUCTURES**

To obtain best protection for the longest time recommend and use

**DIXON'S SILICA-GRAPHITE PAINT**

It is a natural combination of flake graphite and silica for its pigment and pure boiled linseed oil for the vehicle.

Dixon's Paint will not crack, peel or flake off because of the natural elasticity of the pigment.

We have records of service from five to ten years and even longer. Write for Booklet 80-B and you will find some interesting facts.

**JOSEPH DIXON CRUCIBLE CO.**  
JERSEY CITY, N.J.   
Established 1827 



MANUFACTURERS OF

**LECTRO-LITE—The Permanent Mill White**  
In gloss, eggshell or flat finish.

**DAVIS INDUSTRIAL PREPARED PAINT—**  
A pure Linseed oil Paint.

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One gallon makes two.

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Varnishes for inside and outside service.

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**The Industrial Enamel Paint**

Guaranteed to stay white longer than any other paint. Reflects the light in your factory, thus increasing production and saving light bills.

Durable and washable. Economical because two coats will do the work of three coats of ordinary paints. Will not crack, peel or blister.

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**ECLIPSE MORTAR COLORS**  
Superior to All; Reds, Browns, Buff, Black  
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**BLUE RIDGE MORTAR COLORS**

Produced from Southern Minerals for Southern Builders

<b>BLACKS</b>	<b>CHOCOLATES</b>	<b>RED</b>	<b>BUFF</b>
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**BLUE RIDGE TALC COMPANY, Inc.**  
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Enduring  
Uniform  
Strong  
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**SCO-CO PAINTS**  
MANUFACTURED BY  
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**ALLEN'S ANTI-RUST PAINT** for roofs, stacks, boiler fronts, ice cans, chemical equipment or wherever iron is exposed to corrosion.

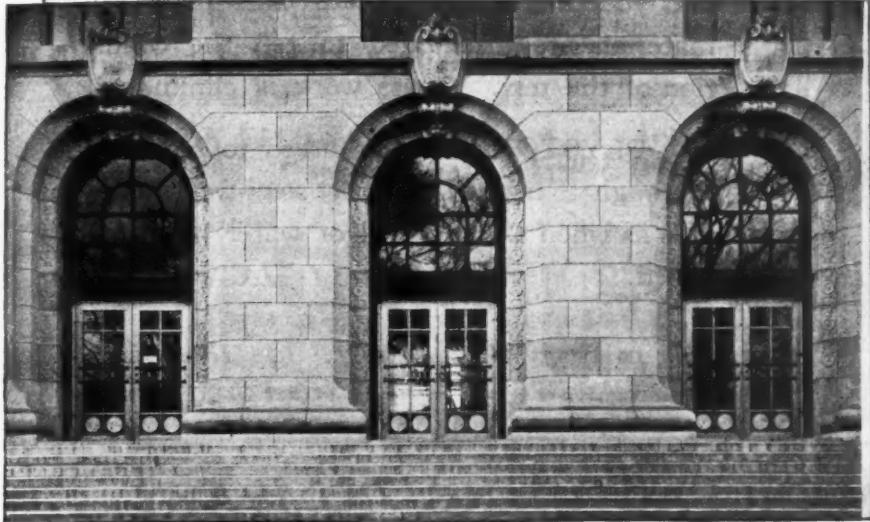
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**RAPIDRY** a black paint that dries in a few hours but at the same time is elastic and durable. For poles, fences, structural iron, etc.

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Dahlstrom Hollow Metal Entrance Doors in the Michigan State Office Building.

## DAHLSTROM ENTRANCE DOORS

There is a certain atmosphere surrounding federal, state and municipal buildings which makes one feel the importance and bigness of them.

It is not necessary to use massive doors in this age to portray strength in such a building. Hollow metal doors will give that appearance of strength and yet the actual weight and the cost will not be nearly so great.

For nearly twenty years Dahlstrom Doors and Trim have found favor in helping to create in these buildings and retain such an atmosphere.

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DAHLSTROM METALLIC DOOR CO.  
479 Buffalo Street      Jamestown, New York

NEW YORK  
25 Broadway

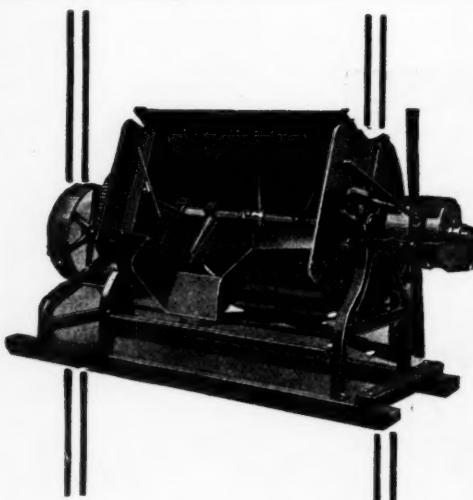
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*Local representatives in principal cities*



# CUTS OUT THE GUESS WORK



The BLYSTONE is of the open-drum type and you are not obliged to wait until the materials are discharged to tell the condition of the mix. Guess work is eliminated.

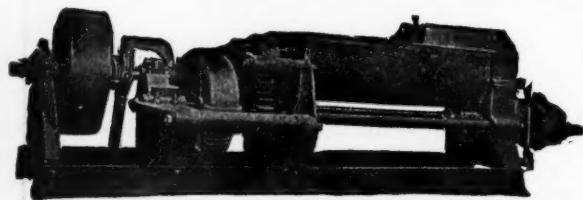
The BLYSTONE is guaranteed to make as thorough a mix of dry or semi-wet materials as when a great deal of water has been added.

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Union Brick and Hollow-ware Machine

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## BUILT FOR FACTORY USE

ordinary step ladders are  
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**THIS IS**

Two men, one on each side, can work on it.

**Price \$1.00 per foot**

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The Half Cut Engineer whether from the Correspondence School or Old Siwash always knows it all. Can't tell him anything about elevators.

He knows more about elevators in two minutes than the fellow who has been for years building and installing them knows about elevators in two years.

*"Hooks 'er to the Biler."*

The "Old Man" is rarely an accident. His brains usually elevate him.

When a proposition is laid before him he can "catch on."

**The Man in the Big Place is Almost Always A Man of Faith.**

Get that, my boy, if you're ambitious to rise.

**The Man Who Doubts Gets Nowhere Either in This World or the Next.**

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Elevator in Large Soap Factory in Jersey City

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Standard for nearly half a century.

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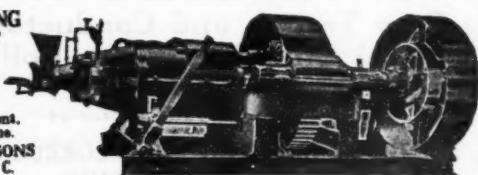
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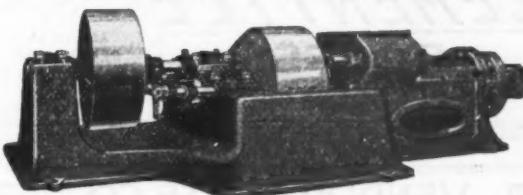
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Shows the  
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Edwards' Metal Shingles are attractive, durable, water, wind and fireproof. There's a design to suit every taste. They are easily laid; the only tools needed being hammer and nails. And the patent Interlocking Device provides automatically for expansion and contraction.

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Toilet Enclosures  
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Sinks and Sink Tops, Tanks, Vats, etc.

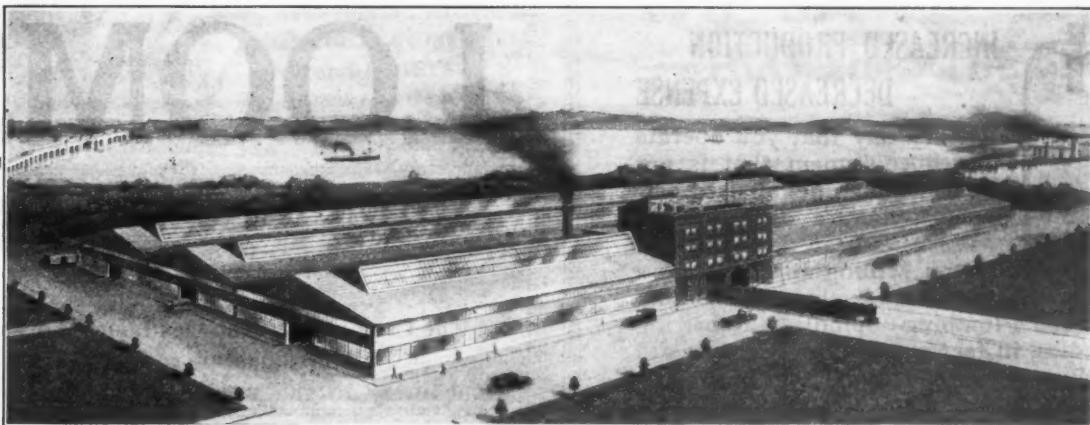
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The plant shown above is the largest section Metal Building in the South.

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Buildings can be erected by unskilled labor at a material saving, and being made of "Lyonore" Metal—the rust-resisting alloy—will last a life time.

Specify "Maryland Metal Buildings" and be one of our "satisfied customers."

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MANUFACTURERS

Race & McComas Sts., Baltimore, Md.





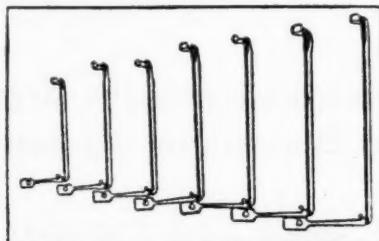
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Every day that you operate with equipment that is not performing one hundred percent—you are losing money. We have been doctoring the

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Let us help you as we have helped others—to increase production and cut down expenses.

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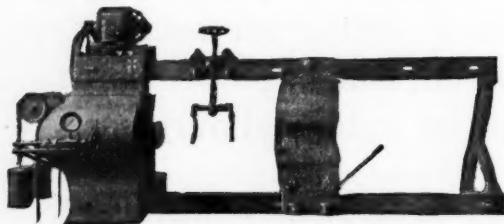


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CANNING MACHINERY AND SUPPLIES  
For Fruits, Vegetables, Sea Food, Etc.  
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WE MANUFACTURE  
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The Crompton & Knowles Loom Works is the largest builder of plain and fancy weaving machinery in the world.

We make looms to weave every known woven fabric, such as woolen, worsted, silk, gingham, towel, duck, tire fabric, cord fabric, blanket, tape, sisal, etc.

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MOST  
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The Standard Pure, Soluble Soap Powder  
In Use for 46 Years

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COSTS LESS PER HOUR  
OIL MILL  
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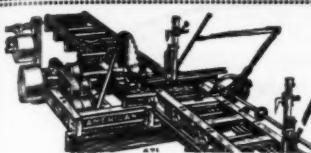
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Hamburg Pneumatic Tanks For Pneumatic Water Systems

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Vertical Tappings—30"x6'; 36"x6'.  
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HAMBURG, BERKS COUNTY, PENNA.

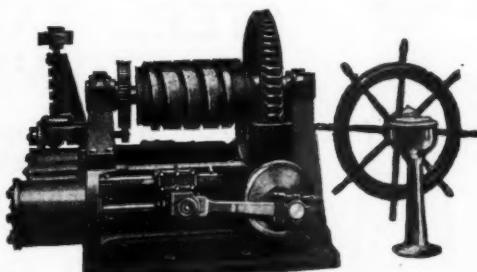


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*Manufacturers and Engineers*  
SEPTIK TANKS AND SEWAGE  
DISPOSAL PLANTS

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Ship  
Deck  
Mach-  
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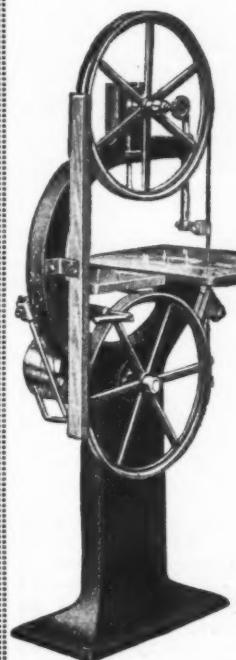


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ETC. THEY ARE "BUILT RIGHT AND RUN RIGHT."

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Machinery Co.  
BUCYRUS, OHIO

# THE SAW THAT FILLS THE BILL



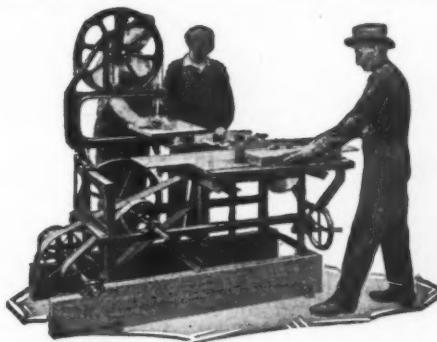
This is the Silver Improved 20 Inch Band Saw with an iron table planed perfectly smooth, can be tilted for angle sawing by loosening a nut with an attached lever, and can be firmly locked where desired. The entire frame is in one piece with the base resting on the floor. There is absolutely nothing to get out of order. Silver Band Saws are also made in 26", 32" and 36" size.

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**Parks**  
**"Four-in-One"**

Circular Rip and  
Crosscut Saw  
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Boring Machine

\$225  
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A PARKS "Four-in-One" speeds up the four most important woodworking operations — sawing, band-sawing, planing, and boring. The one-man shop with a "Four-in-One" is as productive as a small factory of hand-carpenters.

The "Four-in-One" is a strong, sturdy, fast woodworker. Thousands in use by carpenters, contractors, cabinet-makers, toy-makers, and pattern-shops everywhere.

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The Parks Ball Bearing Machine Company  
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8-23

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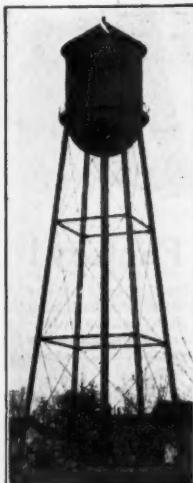
What the Pittsburgh-Des Moines Steel Company did for Ashland, Va., they can do for your town or city. For years this company has devoted itself to the construction of Municipal Water Plants and to the manufacture and erection of steel tanks and towers, standpipes, etc.

Put your water problem up to us. A new office has recently been opened at Richmond, Va. to enable us to serve the South more effectively. One of our men will be glad to call upon you if you so desire.

*Write for Catalogue No. 75 today*

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*Other Offices in:*  
Des Moines      New York      Chicago  
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New Steel Tank  
Erected on Steel  
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Tank

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DES MOINES

**What Makes a Good Tank?**

It is the knowing how to design and construct a tank that will give good, long, honest, dependable service year in and year out without a hitch.

Caldwell Steel Tanks are the result. Engineers designed them according to approved engineering principles. A company with over thirty years of tank-building experience produces them.

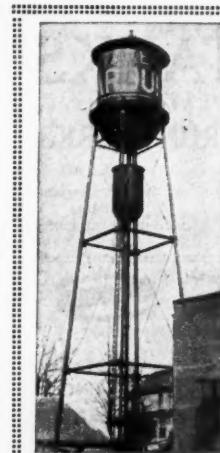
Caldwell Steel Tanks are made of the finest steel and carefully riveted so that there's no chance for breaks or leaks.

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TANKS  
AND  
TOWERS



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### Steel Riveted Pipe Standpipes Tanks on Towers

We make dye tanks and also manu-  
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**STEEL TANKS**—For pressure or plain storage—riveted, welded, or genuine copper-brazed construction—the tightest, strongest, safest tank it is possible to construct by any known process.



## STEEL TANKS and TOWERS

For Water Supply  
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ANY SIZE ERECTED ANYWHERE

Manufacturers of  
BOILERS AND ENGINES

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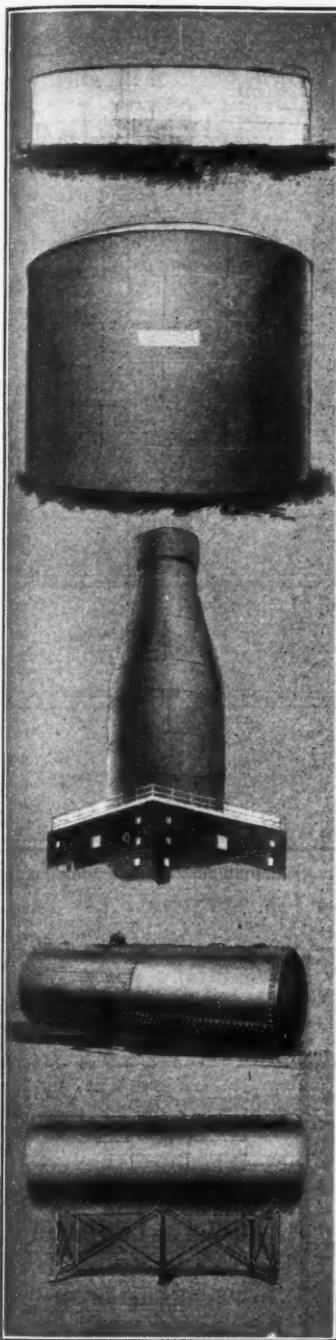
**R. D. COLE MFG. CO.**  
NEWNAN      GEORGIA

August 2, 1923.

MANUFACTURERS RECORD.

61

**Youngstown**  
TANKS  
STANDARDIZED



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The Youngstown Boiler & Tank Co.

President

No. 11 of a series of advertisements.

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Youngstown Ohio U.S.A.



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*We Give Service*

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ALL GRADES

Also Manufacturers of

### Acid Phosphate

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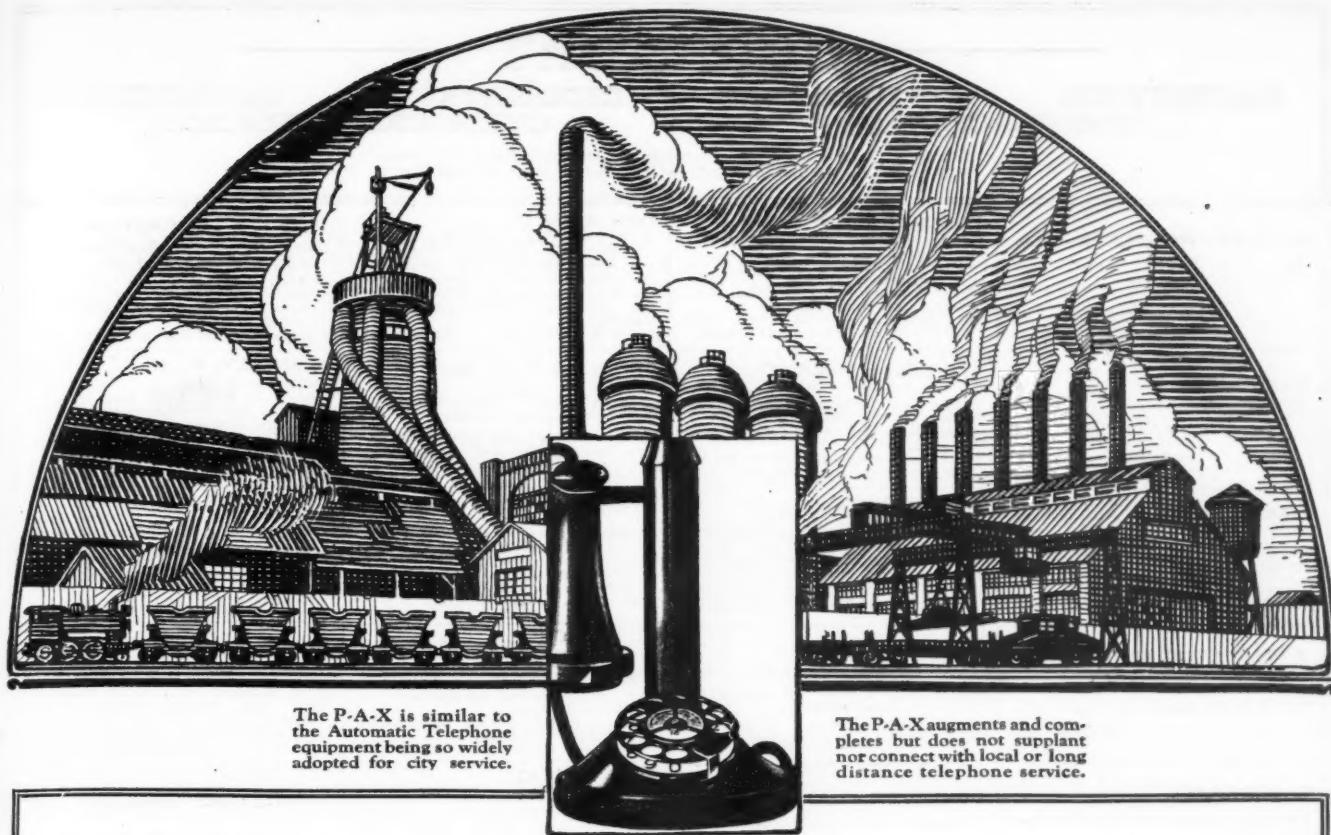
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your • • •  
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leaves nothing untold"



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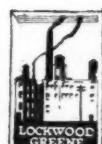
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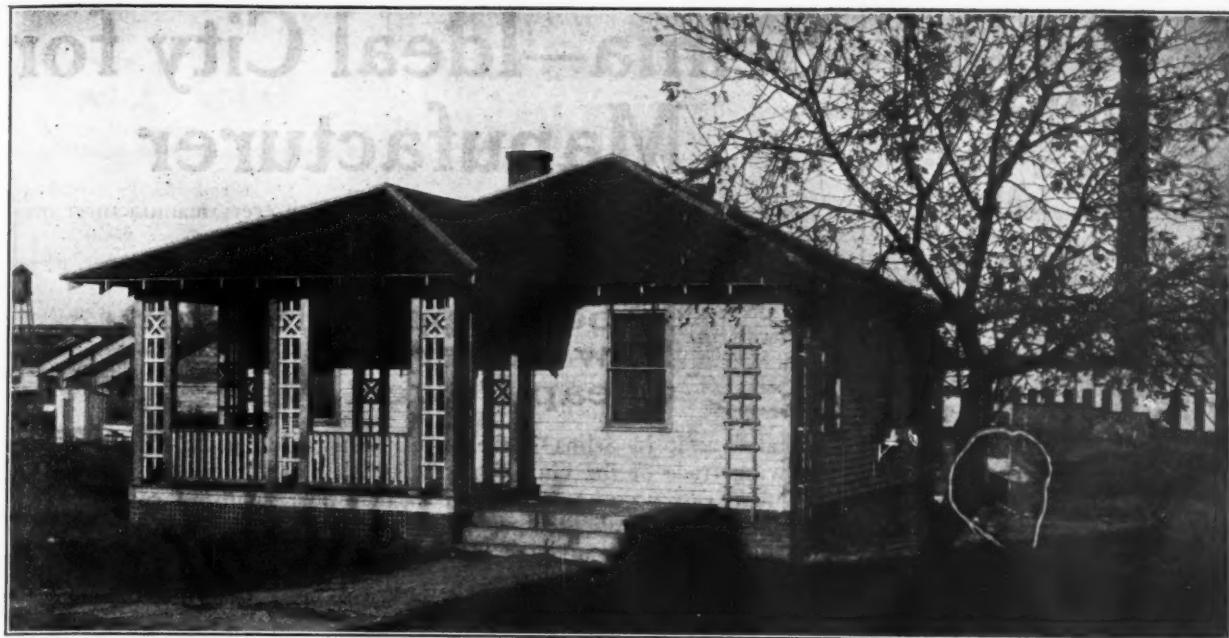
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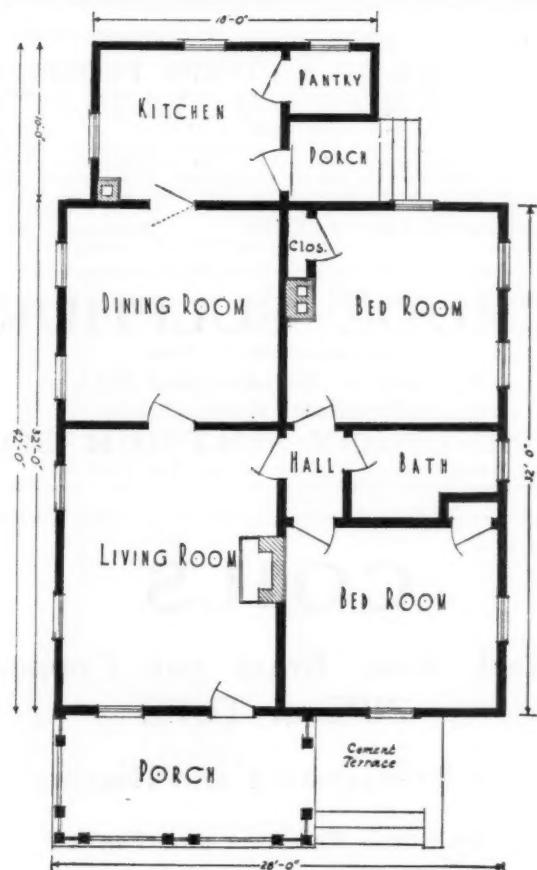
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the houses you want*

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Greenville, South Carolina

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Huntington, West Virginia

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ALABAMA"**

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 County population 65,000.  
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 Undeveloped mineral resources.  
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ALABAMA"**

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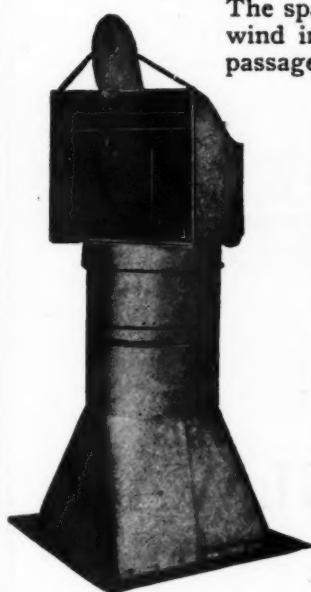
## Cotton Mill Knitting Mill Other Industries

Full information relative to any special line of industry will be gladly furnished to interested parties.

## Secretary Chamber of Commerce Dadeville, Ala.

*Dadeville has abundant hydro-electric supply—"cheapest in the South."*

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The Seaboard embraces, from Florida through to Maryland, a territory rich in inducements to the fruit and vegetable grower, to the cattle, sheep and hog raiser, and the dairy farmer. Every state has opportunities in these directions unmatched in America.

The coal, iron ore and limestone deposits of Alabama bristle with successful and constantly expanding iron and steel plants, coke ovens, cement and lime mills and their related industries.

Other great mineral deposits unlimited in extent such as phosphate rock, granite, marble, mica, feldspar, kaolins and clays in great variety offer a tremendous field in Alabama and other states.

By the Seaboard the products of its territory reach the markets of the East, of the West and of the world. Millions of acres await the progressive farmer within the empire traversed by this railroad, free from the great extremes of cold and heat.

In the Piedmont and other sections are located the South's great textile mills. Unparalleled advantages are offered for the manufacture of cotton goods, hydro-electric power covers a vast territory from Virginia to Alabama, with American labor readily adaptable to the various forms of industry.

The Development Department of the Seaboard Air Line is divided into the Industrial Division and the Agricultural Division; both stand ready to assist those seeking information respecting any phase of the manifold opportunities for industry and agriculture that await development.

## DEVELOPMENT DEPARTMENT SEABOARD AIR LINE RAILWAY

602-603 Liberty Bank and Trust Building

SAVANNAH, GEORGIA

August 2, 1923.

MANUFACTURERS RECORD.

73



# Where to Locate YOUR FACTORY

*And Make the Most  
Money Running It*

Look at the map and study the territory covered by the Louisville & Nashville Railroad; entering, and giving direct transportation service to, thirteen States.

Within the bounds of this territory you can find advantageous factory locations, an assured power supply, abundant raw materials, competent skilled and unskilled labor, lowered operating costs and favorable climatic conditions for uninterrupted operation.

By the "short haul" the L. & N. Railroad will bring the raw materials to your factory door; and take your finished products direct to connecting lines reaching the markets of the world.

The L. & N. Railroad has nothing to sell you but its services as a common carrier; but it is a potential buyer of the things you make to sell—and, through its vast army of employees, it actually buys every manufactured commodity sold in America, in both the luxuries and the necessities of life.

The Louisville & Nashville Railroad Company is prepared to furnish you valuable and authentic data as to favorable factory locations within the territory it serves; and will promptly do so, on request.

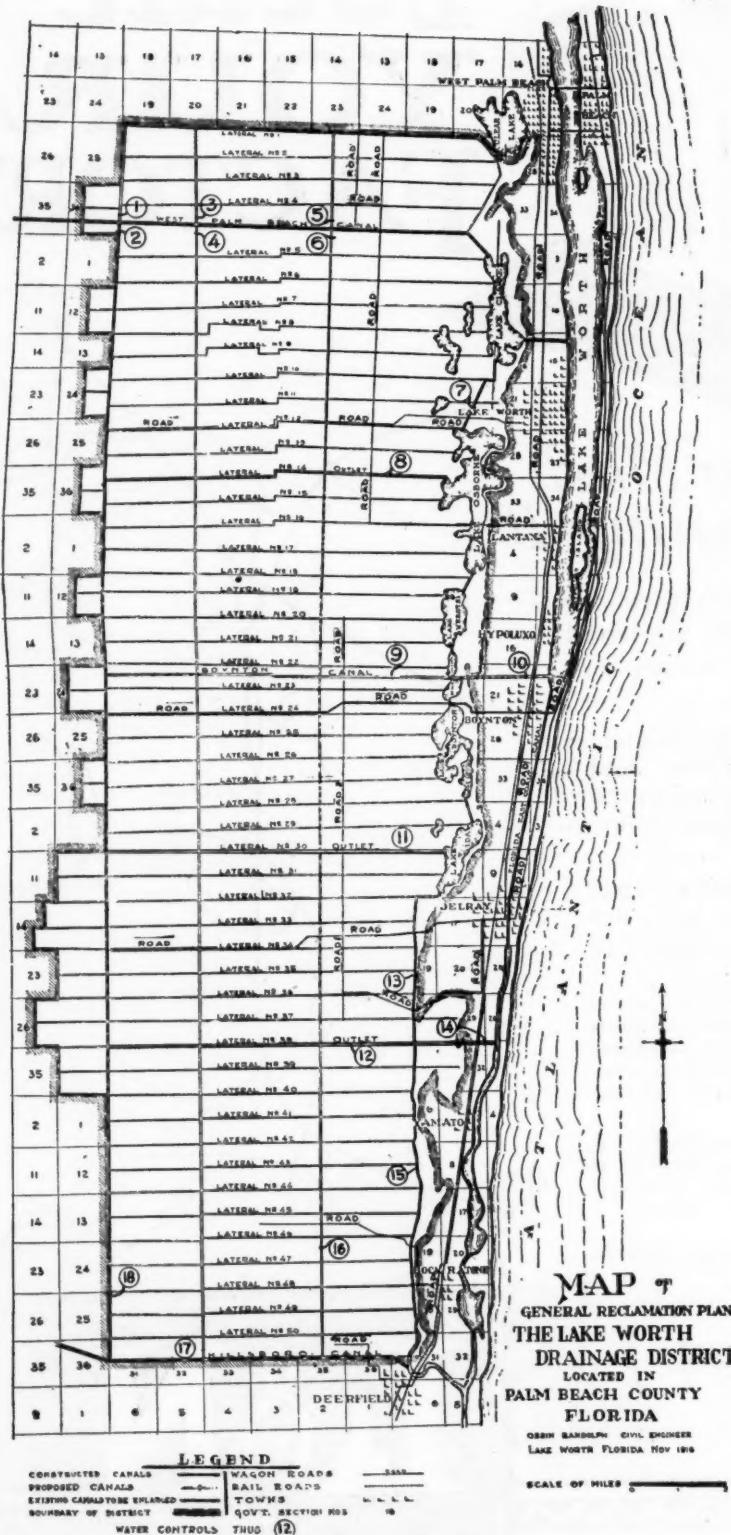
*Write to, or otherwise communicate with,*

**G. A. Park**  
General Immigration & Industrial Agent  
Louisville & Nashville Railroad  
Dept. F, Louisville, Ky.



THE OLD RELIABLE

# Note the Location of Florida's New Drainage District



IN PALM BEACH COUNTY ON  
EAST COAST RAILWAY

THE Lake Worth Drainage District, comprising 130,000 acres, is now about completed.

It is one of the most thoroughly designed districts ever organized in the South. Both drainage and sub-irrigation canals have been provided, to give drainage in wet weather and irrigation in dry periods.

The lands have a high value of productiveness and are especially suited for trucking, fruit growing, sugar cane and dairy farming.

Ample shipping facilities are available through the Florida East Coast Railway, supplemented by lateral highways running through the district.

The Model Land Company, which owns thousands of acres in the district, is putting these lands on the market at special terms for immediate development of part of the land.

*Full information about this offer, as well as data on other East Coast opportunities will be gladly furnished.*

## Model Land Company

of The Flagler System

JAMES E. INGRAHAM, President

ST. AUGUSTINE, FLA.

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J. M. MALLORY, *General Industrial Agent*

Central of Georgia Railway Company

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SAVANNAH, GEORGIA

# Hog Island Ships Are Good Ships

A HOG ISLAND SHIP  
IN THE PANAMA CANAL

## In Service on the Seven Seas

**H**OGLAND produced 110 cargo ships. Today 103 of them are busy on the Seven Seas, although general shipping conditions are such that only one-fourth of the United States Shipping Board fleet is in commission.

The Hog Island Ships have steamed a total of 9,000,000 miles—400 times around the world. *Built under war conditions and at unheard-of speed, it has taken peace conditions and the severe competition of a declining market to show their great commercial value.*

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MANAGE  
FINANCE

**STONE & WEBSTER**

INCORPORATED

# Manufacturers Record

## Exponent of America

AUGUST 2, 1923

Volume LXXXIV

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Write for Bulletin 42-M

THE LAKWOOD ENGINEERING COMPANY  
CLEVELAND, OHIO  
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# Manufacturers Record

EXONENT OF AMERICA

Devoted to the Upbuilding of the Nation Through the Development  
of the South and Southwest as the Nation's Greatest Material Asset

Trade-Name Registered in the U. S. Patent Office

Vol. LXXXIV No. 5  
Weekly.

BALTIMORE, AUGUST 2, 1923.

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In order to avoid delays all correspondence pertaining to news or advertising matters should be addressed directly to the Manufacturers Record, Baltimore, Md., and not to individual editors, officers, employees or any branch office.

If you would render the South an invaluable service, send copies of the reprint of the 32 page story of vegetable and fruit industry in the South, to every Northern and Western friend or business acquaintance. See page 85.

## MANY "CUSSES."

The French Kaolin Company,  
Kaolin, Bauxite, Corundum, Mica,  
St. Petersburg, Fla., July 22.

*Editor Manufacturers Record:*

No need of inserting ad for steam shovel again.

I guess every cuss South of Mason and Dixon Line reads your journal pretty thoroughly, for that small ad in one issue brought replies from nearly all the steam shovel owners and dealers in Southeastern United States.

Received three replies before I received the RECORD myself. Enclosed find check for your well rendered services.

S. K. FRENCH.

The moral is too obvious to need mention.

## PAUPERIZING A NATION.

THE unemployment dole in England amounts to about \$500,000,000 a year and much of it goes for drink, and many a man quits work when there is work to do merely because he can live on the dole and spend his time in drinking.

England is in a sad way because it is teaching pauperism to all of its laboring people, and pauperism taught in this way inevitably leads to the destruction of character. We are in great danger of following England's example in many respects; pauperizing our people in thought and pauperizing them in the Union Labor idea that they must lessen their work and reduce to the minimum their daily output. This pauperizing of labor is spreading from labor to other classes of people.

## AN ENORMOUS INCREASE IN OUR IMPORTS OF FOODSTUFFS AND MANUFACTURES.

THE foreign imports of this country continue to swell at a very rapid rate, showing a gain in June over the corresponding month last year of nearly \$60,000,000, and a gain during the twelve months ended June of \$1,173,000,000.

We imported during the twelve months \$858,000,000 worth of foodstuffs, crude and partly or wholly manufactured, and food animals, as compared with \$634,000,000 for the preceding fiscal year. Our importation of crude materials for use in manufacturing jumped from \$909,000,000 to \$1,475,000,000, while manufactures for further use in manufacturing gained \$304,000,000, and manufactures ready for consumption gained \$78,000,000. On the other hand our exports increased only \$180,000,000 over the preceding twelve months.

The free traders constantly told us during the campaign for the Fordney-Macumber tariff bill that under that bill it would be impossible for foreign nations to ship us their products, and that therefore they could not buy our products. Directly contrary to those statements is the fact that foreign nations are selling us their products to an enormous extent, running as stated \$1,173,000,000 greater in value than for the preceding twelve months. The Fordney-Macumber tariff bill is giving us a larger revenue from imports than we have ever had before from that source, but at the same time it is not halting the flood of foreign goods into the United States. Moreover, many products are coming into this country without paying any duty, illustrated in the fact that one concern in the South alone has imported 300,000 barrels of foreign cement.

We are exporting far more of foodstuffs than we did prior to the World War, and though European countries are selling to us more heavily than ever before they are not buying as freely from us, and with this economic change, which is going on rapidly as a result of the World War, we must face conditions as they are. We cannot add to the prosperity of the Orient and increase the power of the Orient to buy from us even though some people talk as though entrance into the League of Nations would make that possible. We cannot change the economic conditions in Europe until European people themselves put their own conditions on a sounder basis without help from the United States. We have sold to Europe an enormous amount of goods on credit; probably far more than it was wise for us to part with on such terms, for we have simply been piling up Europe's indebtedness to us to an extent that is not altogether safe under any conditions and Europe and the Orient with their low wages are crowding many of our products out of our markets. A pro-

tective tariff much higher than we now have may be necessary to save some of our agricultural and industrial interests from ruin.

The value of imports and exports for the last twelve months as given in Government figures just issued was as follows:

**ANALYSIS OF IMPORTS INTO AND EXPORTS FROM THE UNITED STATES FOR THE MONTH OF JUNE.**

(Values in 1000 Dollars)

IMPORTS	12 Months Ended June 1922		June 1923	
	Value	Per Cent	Value	Per Cent
Crude materials for use in mfg. . .	909,098	35	1,475,941	39
Foodstuffs, crude, and food animals	301,968	12	352,342	9
Foodstuffs partly or wholly mfd.	332,888	13	506,767	13
Manufacture's for further use in mfg.	407,212	16	711,359	19
Manufacture's ready for consumption	638,647	24	716,814	19
Miscellaneous . . . . .	18,266		18,036	
Total Imports . . . . .	2,608,079	100	3,781,259	100
<b>EXPORTS</b>				
Crude materials for use in mfg. . .	925,475	25	1,017,641	26
Foodstuffs, crude, and food animals	520,542	14	394,358	10
Foodstuffs partly or wholly mfd.	623,636	17	584,515	15
Manufacture's for further use in mfg.	412,053	11	486,987	13
Manufacture's ready for consumption	1,210,587	33	1,396,183	36
Total Domestic Exports . . . . .	3,699,909	100	3,886,550	100
Foreign exports . . . . .	71,247		70,528	
Total Exports . . . . .	3,771,156		3,957,078	

### THE NATION'S FOOD SUPPLY.

**W**E would urge every reader North and West and South alike to make a very careful study of the 32 pages in this issue devoted to the truly wonderful story of how the South is feeding the nation. These facts should be given the widest possible publicity.

### A SUGGESTION FROM THE SOUTHERN TRUST COMPANY OF LITTLE ROCK TO ALL ROTARY, KIWANIS, CIVITAN AND SIMILAR CLUBS THROUGHOUT THE SOUTH.

Southern Trust Co.,

Little Rock, July 13.

*Editor Manufacturers Record:*

"I am inclosing herewith check for \$5.00 for which please send me as quickly as possible ten copies of the 1923 edition of the Blue Book of Southern Progress.

"I have suggested to our local Rotary, Lions, Kiwanis, Co-Operative and Civitan Clubs that each of them request other Southern clubs of their respective organizations to join in placing copies of the Blue Book in the hands of the members of these clubs in the cities of the North and East. The Little Rock Real Estate Board is today writing all Southern real estate boards to take similar action with reference to the members of real estate boards affiliated with the National Association. The local Civitan Club expects to act on this suggestion one week from today, and I would like very much to have these copies of the Blue Book here by that time."

M. E. McCoy.

It is needless to say that the suggestion of the Southern Trust Company is appreciated by the MANUFACTURERS RECORD, not merely because it is a tribute to the value of the Blue Book of Southern Progress but because everything which broadens the circulation of the facts given in that publication will tend to hasten the development of the material interests of the South. These facts will also, as they become more widely known, stimulate the optimism and enthusiasm of the people of the South and give them a new viewpoint from which to study the achievements of the people of this section in the past and what the people of this day must do if they will be worthy sons of worthy sires. We trust that the suggestion which the Southern Trust Company is making in this campaign of the Rotary and other clubs and what the Little Rock Real Estate Board is suggesting to other real estate organizations will help materially in carrying forward this campaign of education of the South and of the people of the country at large in regard to the South.

### THE PROBLEMS OF THE WHEAT GROWERS IDENTICAL WITH THOSE OF COTTON GROWERS.

**T**HE Wheat Producers Conference which met on July 16 at Wichita faced the situation without whining or crying of playing the baby act. There was no discussion of political activities or of being saved from ruin by governmental work. One delegate said: "The hard wheat men know that their only salvation is by economic means." And this economic means, as suggested, was a reduction of wheat acreage, diversified farming, and co-operative marketing, and the development of diversified crops and raising of feed supplies at home; and likewise a recognition of the increasing world output of wheat meant the disappearance of a world market for American wheat at a profitable price.

These wheat growers passed among many others the following resolutions:

"Wheat is a world crop produced cheapest on new land or with peasant labor. We have neither new land nor cheap labor, and the time has possibly passed when we can profitably raise wheat for sale in the world market. We would therefore recommend that the production of wheat in the United States be reduced to our consumptive demands as speedily as possible consistent with a reasonably well-balanced production program.

"In our opinion, the prosperity of the wheat belt will depend upon the degree to which the agriculture of this region is diversified, and to the extent to which the family feeds itself and finds profitable employment the year through. The adding of dairy cows, brood sows, and poultry, and the growing of feed crops for their maintenance will in the end absorb much of the acreage now devoted to providing surplus wheat."

These and many other wheat growers are facing exactly the problem which the cotton growers of the South have for many years faced, viz.: that of a concentration upon one crop and putting in too large an acreage for the good of the grower. The wheat acreage has been enormously increased and despite the trebling of our wheat exports, as compared with 1913 wheat growing cannot be profitably extended in the more thickly settled states with the high valuation of land, as compared with the enormous virgin wheat regions of Canada and the Argentine.

With low cost of land and other advantages possessed by Canada and the Argentine for wheat growing, the wheat growers of the United States will be forced by economic pressure to live at home and provide only for the American market with such surplus over our own needs as may be exported to advantage. But the wheat grower, like the cotton farmer, must learn to live at home, to produce at home the things which are consumed for feed and foodstuffs, and no longer depend upon one crop. Under present wheat conditions the country at large will begin to understand the problems which the Southern cotton growers have faced. We venture to suggest that the time may come when former Governor Allen of Kansas, who denounced cotton growers for lessening their acreage, will be compelled to advise the wheat growers of his section to lessen their acreage, unless they want to continue to increase their poverty.

### BEATING THE BOLL WEEVIL.

**P**RESIDENT A. A. CAMP, of the North Georgia Trust & Banking Co., of Winder, Ga., gives a bit of very interesting and important news in regards to the boll weevil situation. On this point he writes:

"I think this year this entire section has learned how to combat the boll weevil and we will make much more cotton than we did last, as they are fighting the weevil in a more scientific way and we have not had very much damage so far, unless something unforeseen happens in the way of the weather, this section will be in much better shape this fall than it was last year."

## THE UNION COAL MINERS AND ATTORNEY GENERAL DAUGHERTY.

If the anthracite operators of Pennsylvania should yield to the demand of the miners' union for an absolute domination of anthracite mining by union miners with the refusal to permit any non-union man to be employed including even non-union men who are now working in the mines and should accept the check-off system, these coal operators would show that they have not the spirit which should animate patriotic Americans. If the bulldozing tactics, such as those that have been advanced by the miners' union in threatening to close the mines or at least a refusal to make any new contract unless their terms should be accepted for a complete unionization of these mines with the adoption of the check-off system should be agreed to, the American people would have their necks put within the noose for the trap to be sprung whenever it suited the convenience of the miners' union. Surely there must be some backbone left in the coal operators of Pennsylvania. Infinitely better would it be for anthracite mines to shut down and stay shut down indefinitely than for such a proposition to be accepted.

The operators have rightly taken the ground that the demands of the miners' union are un-American and are contrary to every rule which should regulate fair dealing with their fellow men. The miners' union refuses to enter into a new contract except on a basis entirely contrary to every right guaranteed by the Constitution of the United States to individual men to possess their own souls and to be independent in their actions. Men who have refused heretofore to join a union would under the acceptance of the miners' union demands be compelled to quit their jobs, or against their will join the union.

The "Check-off" system, which is nothing more or less than highway robbery by the coal operator of his employees, is a scheme of the miners' union to collect enormous fees and dues which they admit they could not otherwise collect from their members in order to carry on their propaganda.

The only thing which has saved this country during the last few years from being starved or frozen into abject submission to the demands of the union miners has been that non-union miners operating the independent mines of Virginia, West Virginia, Kentucky and Alabama have supplied the country with fuel enough at least to prevent complete freezing to death or starvation.

Unless the people of this country are sufficiently alert and have sufficient backbone to stand against the iniquitous demands of the miners' union which has tried to destroy all independent coal mining, the nation would not deserve to live as a free and independent country, but we believe that when once the nation has been fully aroused to this situation, it will stand for the right of the independent man to work without danger of radical union labor control.

Attorney General Daugherty has announced with a great flourish of trumpets that he is going to San Francisco to prosecute the contractors and building material people in that city who it is alleged refuse to employ union men or to sell to contractors operating union men. But while he is taking this position, will Attorney General Daugherty be equally as fair and honest in entering suit against the miners' union for refusing to operate any mines unless they absolutely dominate them and permit no non-union men to enter?

If Attorney General Daugherty is honest in the effort which he says he is going to make to break up the alleged position of non-union contractors in San Francisco, he must in honesty attack the position of union miners who do all in their power to destroy the property of mines operated by non-union men and likewise destroy all possibility of non-union men finding employment.

Has Mr. Daugherty the backbone and the moral courage

to meet this issue? If not, all of his talk about his proposed fight in San Francisco will show that he is merely playing to the galleries and trying to win the labor vote and yet union labor does not control the vote of this country and the sooner the politicians recognize that fact the better it will be for the country and the sooner the politicians cease to be politicians pure and simple and become statesmen seeking the good of the country rather than some personal aims for themselves or for their parties, the sooner will we come to honesty and integrity in political affairs.

## WHAT WE HAVE DONE FOR EUROPE.

New York, July 26.

*Editor Manufacturers Record:*

May I call your attention to two articles in the Saturday Evening Post for July 21 and July 28, respectively, (which are to be followed by a third article) entitled:

"Can Europe Pay Her Debts?"

They point out that since 1917 the United States spent—

On the War.....	\$45,000,000,000
Loaned to Europe.....	\$15,000,000,000
Sold to Europe a balance of goods, wares and merchandize of.....	\$18,000,000,000

That Europe still remains a creditor continent and the United States remains a heavily indebted nation.

On October 16, 1922, Secretary Hoover pointed out that for the fiscal year 1921-1922 the United States ran into debt to other lands \$750,000,000. This was because of the adverse balance of \$1,500,000,000 against the United States on invisible exports or exchange. Secretary Hoover pointed out that the adverse balance of invisible exports was steadily increasing.

As the sale and purchase of goods for the fiscal year 1922-1923 nearly balanced each other, the adverse balance of invisible exports will make us a debtor nation for the last fiscal year to a much larger amount than for the 1921-1922 fiscal year.

As a result of devoting our entire strength and resources to Europe during 1917-1921, together with the free spending, or as some think, the extravagant habits of so many of our people, we are today a debtor nation to other lands, just as we have been since the Civil War.

The talking men at Versailles talked away both peace and victory at the peace table.

HENRY A. FORSTER.

## AN UNFORTUNATE SITUATION.

A SOUTHWESTERN banker, who is afraid of the power of the Federal Reserve Board and thus dares not criticize them openly writes the MANUFACTURERS RECORD:

"On account of the able fight you are waging against the tyranny of the Federal Reserve Board policies, we would be very glad to see your journal placed in the hands of every voter in the country. It is a fight to the last ditch on the part of the international bankers, big interests, and the Federal Reserve Board policies on the one side, and the great middle classes on the other. There is no freedom and there can be none until such time as the finances of the country can be operated in the interest of the people as a whole. The policy of the Federal Reserve Board is the one of might makes right. It will wreck the country and plunge it into bankruptcy beyond recovery, unless restrained. The entire agricultural population, large as it is, and varied as its many angles are, if called upon to pay today, would go into bankruptcy. The condition is not only deplorable. It is intolerable."

"This letter is not for publication, unless you omit the name and address. We are unable to fight in the open the policies of confiscation of the Federal Reserve Board. They have too much power and they are too fond of employing big stick methods."

## HOW ONE MAN'S ENERGY AND VISION WROUGHT A TOWN BUILDING MIRACLE.

**M**ESSRS. Johnson & Johnson, attorneys at law, of Aberdeen, N. C., writing of their neighboring town, Southern Pines, say:

"Southern Pines is growing faster than any other town in this section. They have recently paved their streets, enlarged their water and sewer systems, purchased a municipal park, and are making rapid strides in various and sundry other ways. The whole town has the spirit of co-operation, and complete harmony prevails."

Messrs. Johnson & Johnson are entirely correct in saying that Southern Pines is growing rapidly. It is becoming one of the outstanding tourist resorts of the South and the centre of beautiful homes for winter residents. A letter in this issue claims that 20,000 tourists failed to find accommodations there last winter.

Southern Pines is a unique illustration of the possibilities open to nearly every other town in the South which will follow its example. There was probably never a more unwelcoming spot selected for a new town than the site of Southern Pines when it was established about forty years ago. That whole region had been covered with pine, and the work of the sawman had left standing scarcely a tree big enough to go to the mill. Looking over that entire region one would see little or nothing but here and there a pine too small and worthless to be cut, and the soil looked as though it was an endless stretch of sand. The officials of the Seaboard Air Line had no faith in the possibility of building a town at that point. The officials of North Carolina regarded the effort as visionary in the extreme and criticised the man who proposed it. But John T. Patrick, a wiry little fellow who had a vision, and back of his vision limitless energy, had reached the conclusion that the climatic conditions in that region justified the establishment of a town as a health resort. After much work he persuaded the railroad to put a little station there, but the railroad people had no faith in his success, and the State officials vigorously criticised his plan as calculated to do the whole State harm.

The MANUFACTURERS RECORD often said to Mr. Patrick that his whole scheme was visionary, for surely no one would ever build a town simply based on a great stretch of sand as a foundation, barren of all trees, and with a dreary prospect in every direction. But Patrick said the climate itself justified a town. Moreover, he had faith which nobody else had that things could be made to grow in that sandy soil, and he experimented with grapes and fruits and other things. It was a long, uphill fight for many years. Only a man of tireless energy and iron nerve, who did not know how to say die could ever have kept at the job.

Patrick had no one to help him, for there were no inhabitants there, and nobody believed in his scheme. He bought land at from 15c to 50c an acre, and the sellers probably thought they were cheating him in taking even that price. But he worked and worked, and kept on working. He never knew how to stop, and now, Patrick having long since passed into the other world, Southern Pines and all surrounding territory is a monument through the ages to his life, to the vision and energy of one wiry little body filled with a great soul which did not know how to admit defeat.

The land which he bought at 15c to 50c an acre has become the site of a thriving, rapidly growing community, and the surrounding land, which could have been bought for even less, is now producing thousands of carloads of the most delicious peaches, dewberries and many other fruits, shipped early in the season to Northern and Western markets.

As typical of the change which has taken place, a native of that section was asked by the writer some time ago as to the price of land in any of the surrounding region suitable for peach growing, which has become an outstanding indus-

try. "Well," said the man, "last year I had a chance of buying about 20 acres of good peach land at \$300.00 an acre; but, unfortunately, I waited too long and someone else got it." "And that," said he, "about expresses the condition around this whole territory."

There is now in the Southern Pines region that spirit of cooperation and harmony and enthusiasm among all the people to which Johnson & Johnson refer; and that spirit, stimulated by the example of John T. Patrick, the founder of the town, has made Southern Pines what it is.

There are a thousand towns in the South, and a thousand sites for other towns where the success of Southern Pines could be duplicated if there were men with the same vision and the same energy and the same "never-say-die" spirit of John T. Patrick; or if in the established towns there was that spirit of enthusiasm and cooperation and energy which was born in Southern Pines as the outcome of Patrick's work. Southern Pines is a living illustration of what could be done in a thousand other places if the same spirit prevailed. Would that every other town in the South had a John-T. Patrick, for not simply has the town felt the influence of his work but the whole surrounding country has been turned from a desert into a garden, or a fruit orchard as a result of the work first started by him.

## SAVINGS EXPRESS THRIFT OF THE COUNTRY.

**A**n increase of more than \$682,000,000 in one year in the amount of savings on deposit in the United States is reported by the savings bank division of the American Bankers Association whose annual compilation for the fiscal year ended June 30, 1922 has just been published, as it requires about a year to gather and compile the data from all of the institutions which receive savings deposits.

This exhibit of thrift is splendid evidence of the progressive character of a large portion of our population, especially in view of the fact that the aggregate of savings deposits is more than \$17,300,000,000. There was also an increase of very nearly 5 per cent in the number of savings depositors during the same year and it is also shown that the number of school children having savings deposits increased from about 803,000 to more than 1,271,000 in the same period.

The total deposits are distributed among the several classes of institutions as follows: Mutual savings banks, \$5,696,439,000; State banks and Trust Companies, \$7,530,292,000; National banks, \$4,074,281,000. There are 621 mutual savings banks with average deposit of \$590 in seventeen states; the number of state banks is 20,308 and trust companies, 1489 in twenty-eight states, with average savings deposit of \$503; the number of national banks in the country is 8235, with average savings deposit of \$334. It is to be noted that in most of the states there are no mutual savings banks, hence the small number reporting. Altogether there are 30,323,320 savings deposit accounts in the United States, an increase of 3,685,489 during the year.

## FOREIGN CEMENT COMING INTO THIS COUNTRY FREELY.

**A** NEW YORK importing firm advises the MANUFACTURERS RECORD that within the last eighteen months it has brought into Southern ports fourteen cargoes of Danish cement, these cargoes averaging between 3000 and 4000 tons each.

We are also advised that Danish cement plants are putting a portion of their product into South America.

It is said that the freight rate on this cement is particularly low as it was largely taken as a matter of ballast by steamers coming to the United States for products shipped back from the South to Denmark.

## A TIMELY WARNING FROM NEW YORK.

THE New York Times, which has been publishing a series of remarkable articles by Prohibition Commissioner Haynes in regard to the criminality of the bootleg element and its effort to bribe revenue agents, in an editorial headed "A Criminal Occupation" has the following to say in regard to those who are violating the Prohibition law:

"No one can read the details which Commissioner Haynes is bringing out in his articles in The Times regarding the difficulties of enforcing prohibition without being struck by the desperate character of the class of men most frequently detected in attempts to violate the law. They can fairly be called criminal, not merely because they are setting at defiance this particular law of the land, but because so many of them stand ready to commit crimes of any nature. The list runs from smuggling and thieving to assault and assassination. The special motive they have in taking up the business of the illegal sale of liquor is, of course, mercenary. They think, and apparently think rightly, that large profits can quickly be made in this forbidden industry. But the lawless instinct which prompts them to go into it also betrays itself in the incidental acts connected with it. They go armed like burglars and are at any moment prepared to kill enforcement agents or detectives or policemen, if they think it necessary, in order to escape the clutches of the law. As a rule they are a reckless and hardened set."

"To this aspect of the matter some thought ought to be given by easy-going people, passing as respectable citizens, who consent to have dealings with these gentry. To do business with them is really to encourage and harbor a criminal class. Its members disregard not only the prohibition law, but the general criminal code. The money which they make by bootlegging too often enables them to commit any other crime which is to their supposed advantage. Persons who call themselves law-abiding ought to take heed how they get into even temporary business relations with such offenders. From pouring scorn upon one law it is easy to pass to contempt for all law. People who would be horrified at an agitation to despise or break the laws safeguarding property are often found winking at violations of the prohibition law. It is a dangerous attitude. The question involved is not only of consistency, but of fostering a temper in large sections of the community which might easily be led to favor the trampling upon any law that stood in the way of the passionate desires of great masses of citizens."

There is nothing in this statement of the Times which has not been repeatedly published in the MANUFACTURERS RECORD. We have warned the violators of the prohibition law who have made themselves co-partners with the bootleggers, that every man who buys the bootlegger's whiskey is a criminal because he is upholding criminality, and is doing his utmost to break down all law. Every bank which knowingly deals with a bootlegger is a criminal conspirator to destroy all law.

The "fence" who receives stolen goods is always looked upon by decent men as about the lowest of the low, matching the thief in criminality. But the man who buys bootleg whiskey or the bank which knowingly handles the money is a "fence" of the most outrageous kind. These people are deliberately handling stolen goods; deliberately violating the law of the land which it is just as much incumbent upon them to observe as it is incumbent upon other men to keep from burglary or highway robbery.

The statement made by the Times that the violation of this law will ultimately lead to contempt for, if not the breaking of all laws for the protection of property, is absolutely true. The man of property who violates the prohibition law by buying the bootlegger's whiskey is doing all in his power to destroy the value of all property, and to make immorality the rule of the land. No man can possibly deny the truth of this statement, for every man who is violating the prohibition law, however much he may try to disguise the fact to himself and his friends, knows at heart that he is a criminal; knows that he is doing his utmost to destroy all morality and all law; and that he is doing the country, because of his high position, more harm than the worst bootlegger who goes prepared to kill any man who interferes

with his operations. The bootlegger could not exist except for his criminal co-worker, the man who buys his stuff, any more than the burglar could thrive by robbery unless he could find a "fence" through whom he might dispose of his stolen stuff.

## JULY COTTON CONDITION REPORT OF THE AMERICAN COTTON ASSOCIATION.

THE American Cotton Association in its July condition report of the growing crop, estimates the prospects, to be 68.6 per cent of normal. Based upon the Government par yield per acre on the Association's estimated acreage of 36,863,000 acres, the prospective yield of the crop will be 11,305,858 bales. This shows an improvement in condition of 1.1 per cent compared with the June report and an estimated increase in production of 540,409 bales as compared with the June forecast. Based upon the Government's estimated acreage of 38,287,000 acres, the prospective yield will be 11,751,588 bales.

State	Condition Cotton Crop July 23, 1923 (Per Cent)	Weevil Infestation	Per Cent	
			Acreage Since June 23	Reported Condition June 23 (Per Cent)
Virginia	67.0			73.7
N. Carolina	79.2	Light	.8	74.3
S. Carolina	69.7	Light	1.5	61.6
Georgia	55.7	Heavy	4.9	56.5
Florida	54.8	Heavy	6.5	62.9
Alabama	61.5	Heavy	4.3	65.5
Mississippi	63.3	Heavy	6.3	63.4
Louisiana	63.8	Heavy	3.1	66.0
Texas	74.2	Light	3.6	76.8
Arkansas	65.4	Light	5.9	63.2
Tennessee	73.8	Light	6.2	64.2
Oklahoma	64.8	Light	5.5	61.0
Missouri	65.4	Light	6.7	61.9
California	91.9			88.8
Arizona; All Others	90.0			86.6
U. S. Average	68.6			67.5

The report continues:

"The States of Georgia, Florida, Alabama, Mississippi and Louisiana weevil infestation is reported heavy, while the other states report infestation from light to heavy."

"The crop outlook as reported is bad for the States of Georgia, Alabama, Mississippi and Arkansas, while indications for all other states are from good to fair."

"The crop is just entering into the crisis for widespread damage from migratory weevil infestation and adverse seasonal conditions. The next thirty days will determine the prospects for a fair or low yield from the 1923 crop."

## THE CALL OF THE SOUTH.

M. R. W. B. WARTHEN, Davisboro, Ga., in ordering 100 copies of the Blue Book of Southern Progress said:

"It is my purpose to send these books to customers and to some folks of the Middle West, that they may see what is in store for those who come this way for home making."

That is the spirit which every man in the South should have. One of the greatest movements of population from the West to the South came about by reason of depressed agricultural conditions in the Dakotas following the failure of the corn crop for two or three successive years a quarter of a century ago.

The West is suffering from depression in the wheat market. Pessimism is rampant in that section. It is a region where wheat growing is almost as dominant as cotton growing once was in the South. If through the West and the North there could at the present time be distributed hundreds of thousands of copies of pamphlets about the South, and the Blue Book of Southern Progress and kindred things, there would be started a movement of population to the South which would be of infinite value to this section and to the people who come from that section of the West which is cold and blizzards during the winter and burning hot during the summer.

### "FATIGUE" OF METALS.

**T**O determine how long it takes to "tire" a metal to the point where it gives way under repeated strains or shocks the Engineering Foundation in collaboration with the National Research Council, the Copper and Brass Research Association, the University of Illinois, the General Electric Company, Western Electric Company and other corporations, have undertaken a comprehensive program of research to establish the endurance limits or so-called "fatigue" of copper, brass, bronze, and other metals.

Every one is familiar with the breaking test of a piece of wire, by bending it back and forth until it snaps. Some wire has to be bent oftener than others. The breaking of the wire was the result of "fatigue," and when the wire snapped it had reached its endurance limit. Fatigue failure assumes great importance in the operation of machinery, in which shaftings, axles, springs, bolts, rods, ties and structural parts made of metal are subjected to repeated loads, shocks and stresses. Fatigue characteristics depend on the composition of the metal or alloy, the heat treatment to which it is subjected in manufacture, the structure of the metal, impurities present, and the shape of the object.

To determine the facts which govern the strength of the many metals and alloys employed under widely varying conditions of service is a task calling for exhaustive research. For three-quarters of a century the need of accurate information on this subject has been apparent, but the cost of the undertaking was a deterrent. During the World War the question of strength of aeroplane parts under repeated stress became of such prime importance that a full investigation of the endurance limits of commercial steels was begun.

It is now planned to carry forward a comprehensive research into the endurance limits of copper, brass, bronze and other non-ferrous metals and alloys. The Copper and Brass Research Association will be represented in this undertaking by Captain Harry George, metallurgist, Chase Metal Works; Mr. W. R. Webster, Vice-President, Bridgeport Brass Company, and Mr. William B. Price chief chemist and metallurgist of the Scovill Manufacturing Company. The work will be supervised by an advisory committee of specialists connected with the National Research Council. Dr. H. F. Moore, Professor of Engineering Materials, Materials Testing Laboratory of the University of Illinois, will be in immediate charge of the experiments at Urbana, Ill. The Engineering Foundation, of which Mr. Alfred D. Flinn is director, has provided special equipment and funds, and is co-operating in other ways.

### NOT THE TIME TO DEMAND HIGHER WAGES.

**W**ITH wheat at less than one dollar a bushel, a figure far below the actual cost of production and wheat setting the stamp of prices for many other farm products, this is no time for men to be talking about higher wages. The demand of the coal miners and railroad employes, plasterers, brick layers, carpenters and others for an increase in wages at the present time is absolutely without moral justification. The farmers are working anywhere from fourteen to fifteen hours a day, and on dairy farms it is almost a twenty-four hour job seven days in the week to keep the city supplied with milk. Two millions of farmers have left the farms within the last year and moved to the cities and others are abandoning their farms, hoping to be able to make a living in city work.

Under such conditions an attempt to secure higher wages than they are now getting on the part of mechanics of all kinds is ill timed, unwise, and will help to destroy all profitable employment. If the employees who are now seeking for still higher wages, and the MANUFACTURERS RECORD has

always been an advocate of good wages, insist upon their demands and strike for these higher wages, they will only serve to hasten the time when millions of men will be out of employment as they were two years ago, walking the streets vainly seeking for work to keep their families from starving. We have had enough of unemployment, enough of a halt of prosperity. It is time now for the laboring men to do as the farmers have done—put forth their utmost exertions to increase their output. The farmer has worked long hours, hard and faithfully to increase the food supply of the country and now millions of industrial workers are doing their utmost to break down the price of farm products and live on the poverty of the farmers, regardless of the fact that in doing this they would destroy their own opportunity for employment.

### HEAVY EXPORTS OF FLOUR IN 1922.

**I**N making a world survey of the flour trade the United States Department of Commerce calls attention to the fact that during 1922 the United States exported 41 per cent more flour than in the pre-war period, while Argentina made an increase of only 17 per cent.

The exports of flour from the United States during 1922 increased from pre-war average of 10,678,000 barrels to 15,025,000 barrels.

In our exports to Germany there was a gain of from 187,000 barrels as the pre-war average to 1,497,000 barrels for 1922. Sweden took 111,000 barrels in 1922 as compared with 43,000 barrels, Greece 168,000 barrels as against only 1000 barrels in the pre-war period.

The exports to Egypt rose from 38,000 barrels to 228,000 barrels; Holland from 819,000 barrels to 895,000 barrels; Norway from 212,000 barrels to 241,000 barrels; Italy from 11,000 barrels to 49,000 barrels, and Bolivia from 5000 barrels to 45,000 barrels.

There was a large decrease in the exports to the United Kingdom, which dropped from 2,712,000 barrels the pre-war average, to 2,229,000 barrels in 1922; and a decline to Denmark of 48,000 barrels, and to Brazil of 121,000 barrels.

The striking fact in regard to these figures is that the main decline was to Great Britain where trade has not been subject to the conditions prevailing on the continent; while Germany, which it has been so often claimed has been in the deepest poverty, made the phenomenal jump in its imports of our flour from 187,000 barrels to 1,497,000 barrels, and Greece from 1000 barrels to 168,000 barrels.

Even in 1921 when there was a heavy decline in the exports of flour as compared with 1920, the foreign shipments for 1921 were nearly 60 per cent above the pre-war average. Notwithstanding these facts many people are constantly claiming that the difficulty with our foreign trade is that Europe cannot buy our agricultural products. It has been buying them to a much larger extent than prior to the war, as the MANUFACTURERS RECORD has repeatedly published.

### ONE SOUTHERN CONCERN IMPORTS 300,000 BARRELS OF FOREIGN CEMENT.

**I**N reply to an inquiry as to the amount of foreign cement which it has imported the Southern Power Company of Charlotte, N. C., through Mr. W. S. Lee, Chief Engineer, writes the MANUFACTURERS RECORD as follows:

"The Southern Power Company has imported approximately 300,000 barrels of foreign cement for building its present power plants. We are still importing some cement at this time. The foreign cement we are using passes English and American specifications."

In 1922 the Atlantic Coast Line Railroad handled 460,147 tons of vegetables.

# The Nation Dependent Upon the South for Food.

**250,000 TO 300,000 CARLOADS OF FOODSTUFFS ANNUALLY SHIPPED FROM THE SOUTH TO THE NORTH AND WEST.**

**Railroad Officials Tell of the Remarkable Extent and Rapid Development of Vegetable and Fruit Growing in the South for Feeding the North and West.**

THE South is feeding the nation. It takes twice as many carloads to handle the early vegetables and fruits of the South shipped to Northern and Western markets as it would do to haul 10,000,000 bales of compressed cotton. Ten million bales of cotton, on the basis of an average per carload of about 40,000 pounds, would require 125,000 cars. It takes about 250,000 cars, possibly 300,000 to handle the foodstuffs shipped from the South to feed the people of other sections. The great bulk of this consists of a wide variety of vegetables, such as potatoes, cabbages, lettuce, celery, tomatoes and eggplants, and strawberries, citrus fruits, apples, peaches, pears, watermelons, cantaloupes and almost every other product of this kind produced anywhere in the United States. In addition to these fruits and vegetables the South annually furnishes to the North and West several hundred million dollars worth of cottonseed oil, peanut oil, soya bean oil, and the varied products of these and kindred industries.

During the greater part of the winter and spring season Southern railroads are daily hauling several thousand carloads of these vegetables and fruits and of other Southern produced foodstuffs into the markets of the North and West that the nation may be fed by the South. One railroad alone handled last year 95,000 carloads of fruits and vegetables. Two adjoining counties produce nearly 3,000,000 barrels of potatoes a year, and have shipped as high as 618 carloads in one day. Many millions of bushels of apples are raised in

the South and shipped to other sections. Florida will ship during the coming twelve months nearly 100,000 carloads of vegetables and fruits, while other Southern States, all the way from Virginia to Texas, are rapidly coming to the front in this industry. Some idea of the extent of these shipments may be gained merely from the fact that the one state of Georgia has shipped as high as 16,000 carloads of watermelons in one season, and about 9000 carloads of peaches in the same year. One little town in Mississippi rarely heard of outside of food circles, ships 2000 carloads of tomatoes a year, while thousands of carloads of strawberries and dewberries and other crops of this character are shipped from different parts of the South.

When Dr. John Gorrie of Florida made the first successful ice machine, the forerunner of the refrigeration system for meats and fruits and vegetables, he made possible a revolution the extent of which can scarcely be fully realized. Without this icing or refrigeration system for cars and steamers the present methods of distributing meats and fruits and vegetables would be impossible. It is appropriate, therefore, that the section which gave the ice-making industry to the world should now be utilizing the refrigeration system for the shipment to other sections of this country of an almost endless stream of winter-grown vegetables and fruits which are poured into the markets of the North and West.

The nation's menu has been completely changed within the last few years. No longer confined to canned fruits and vegetables, the country is buying from the South every day through the winter an almost endless amount of early vegetables and citrus fruits, and a little later in the season peaches and pears and apples and other fruits in vast quantities.

Letters from leading railroad executives of the South published in the following pages give some idea of the volume of this industry and the wide area which it covers. It is conservative, as already stated, to say that the aggregate of foodstuffs shipped out of the South into other sections will run well over 250,000 carloads, and possibly up to 300,000 carloads. Not only is this twice as many carloads as is required to handle ten million bales of compressed cotton, but it is about one-half the number of cars that would be required to handle an 800,000,000 bushel wheat crop if every bushel of wheat was shipped by rail out of the county in which it is produced, whereas to a considerable extent wheat is consumed in the counties where raised.

This trucking and fruit industry is in its infancy. Every year will add to the number and ability of consumers in Northern and Western markets who will demand winter-grown vegetables and fruits from the South, and there is, humanly speaking, absolutely no limit to the extent to which

The facts on this and the following pages regarding the increasing development of the trucking and fruit industry of the South, and its relation to the welfare of the nation should be widely distributed throughout the North and West by railroads and all others interested in drawing men and money into the South. These facts are presented from a new angle. They give people something new to think about and talk about. The railroads of every part of the South should be equally as interested in distributing the entire symposium as if the whole of it was concentrated on their individual roads. To be able to show that the entire South from Maryland to Texas is sharing in this fruit and vegetable development is of infinitely more importance than it would be to show that any one limited area of the South is handling a vast amount of this traffic.

In view of the importance of this the Manufacturers Record will hold in type this entire 32 page story of the vegetable and fruit business for a few days in order to reprint it in this form if sufficient number of orders are received. The price will be \$20.00 per hundred copies. No order can be taken for less than 100 copies, and there will be no definite acceptance of any order until we learn whether a sufficient number have been received to justify our putting the forms back on the press.

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these products can be grown in the South. Increasing prosperity and the larger wages of the working people will broaden the demand for winter-grown vegetables and fruits. Thus the advance which the South has already made in this industry will be far surpassed as the years go by.

Viewed from the standpoint of the food and health requirements of the country this industry is of national importance, while viewed from the standpoint of the economic interests of the South it means an enormous increase in the prosperity of this section. Never again can the South be called a "one crop" country. It is growing a larger number of crops than any other part of the land. In some respects it is doing more proportionately to feed the nation than any other part of the country, for not only is it supplying vegetables and fruits by the hundreds of thousands of carloads, but it is supplying cottonseed oil, peanut oil, soya bean oil, and a vast quantity of other foodstuffs to add to the larder of the nation.

To a degree little understood at present this development is resulting in broadening the agricultural opportunities of the South, and the prosperity of every interest in the South, for every interest is feeling the effect.

The Central South, however, is not dependent upon cotton to the extent that much of the West is dependent upon wheat, and the border states like Maryland, and Virginia, and Tennessee, and Kentucky, have a diversification of grain and cattle and other products greater than that of the West. With this wider diversification of agriculture in what have heretofore been the cotton-growing states, will come abounding prosperity to many sections which formerly grew poorer year by year from the raising of cotton.

Typical of the change that has come about through this new industry of feeding the nation and the co-operative methods of marketing the crops, two counties in Virginia, producing nearly 3,000,000 barrels of potatoes a year, formerly growing poorer in wealth annually by reason of the prosperity now growing in wealth annually by reason of the prosperity which has come to them through co-operative marketing. Establishing their co-operative marketing system in 1900, or 23 years ago, these counties have demonstrated its soundness, and through this system have redeemed themselves from poverty to abounding prosperity. They probably led the entire nation in a well organized, thoroughly rounded out system of farm marketing, and the result has more than justified their work. Somewhat similar marketing conditions have been established in the handling of citrus fruits and other farm products. Probably nowhere else in the country has this co-operative marketing been more thoroughly tested out than in these **Virginia counties which today lead the nation in the average value of farm products per acre under cultivation.**

The world talks much about the cotton crop and its enormous value, but the world has as yet realized only to a small extent the enormous amount of foodstuffs raised in the South for the feeding of the country, and the influence which this is having on the prosperity of the South, the traffic of the railroads, and the health of the people everywhere.

Running through the following letters from railroad executives are many stories of large profits made by individual

growers, of the development of sections here and there specializing in peas, or strawberries, or potatoes, or tomatoes, or other farm products, and the rapid expansion wherever these centers have once become established of the growth of the growth of the industry and the brilliant outlook for its future.

While the West is talking of pessimism because in the wheat-growing regions prices are low, overlooking to a large extent that this is partly offset by the higher prices of corn, the South is rejoicing in the abundant yield of the foodstuffs which it has produced for the feeding of the nation and the prosperity which has come to tens of thousands of farmers through this industry.

We commend to our readers as possibly the most vital bit of news that could be given today anywhere about any industry the reports of these agricultural, trucking and fruit activities so graphically presented by railroad officials and others covering the entire South from Maryland and Virginia to Texas. The photographs in the following pages have purposely been placed without reference to the articles from railroad presidents. In other words the photographs are intended merely to indicate the broadness of this fruit and vegetable industry and not to emphasize the products of any particular section of the South.

## TRUCK CROPS NETTING TEXAS GROWERS \$350 TO \$1000 PER ACRE.

### Great Improvement in Marketing Crops Through Farm Bureaus.

By C. E. SCHAFF, President, Missouri-Kansas-Texas Lines.

While we are not moving as much fruit as we did a few years ago, there has been a steady improvement in conditions during the last two or three years. The decrease in fruit movement has been due to old orchards dying out and to the fact that it requires several years after trees are replaced to restore production. Due to the uncertainty of fruit crops in our territory, the farmers are generally conservative in their planting. Instead of large orchards being planted by a few people, the present tendency is toward small acreages planted by a greater number of farmers.

In South Central Texas, as well as some portions of North Texas, there is a steady increase in truck gardening. We are now handling out of Austin, Texas about 200 cars of spinach each season. Farther south in the vicinity of Houston, there is an annual shipment of from 200 to 300 cars of strawberries, cucumbers, cabbage and other small produce. Jacksonville, in the Tyler District, ships from about 800 to 1200 cars of tomatoes each season. Our observations indicate that these truck crops when properly handled and marketed will net the grower from \$350 to \$1000 per acre.

The watermelon industry along our line has had a steady and substantial growth and we annually handle from 500 to 1200 cars of melons from the various districts along our road.

There has been a very great improvement in the marketing of all crops. The Farm Bureaus have been successful in aiding the farmers to get better prices for their products.

While there has been some movement of negroes from our territory, it so far has not been sufficiently extensive to work a hardship on the Southern territory which we serve. This is perhaps due in a measure to the fact that there is abundant Mexican labor in most sections of Texas.

The boll weevil has unquestionably seriously damaged the cotton crops in Texas, production being reduced to a great extent. However, the situation is improving, due to a general campaign for the use of preventative methods. Present prospects are that this year Texas will produce approximately 4,000,000 bales of cotton, which is more than an average crop.

# In Co-operative Marketing Organized in 1900, Two Virginia Counties Probably Lead the Nation.

**POTATO GROWERS IN VIRGINIA REDEEMED FROM POVERTY TO PROSPERITY—THE TWO COUNTIES WHICH LEAD THE NATION IN LENGTH OF CO-OPERATIVE MARKETING ALSO LEAD IT IN VALUE OF PRODUCTS PER ACRE.**

By E. S. BUCKLER.

A pioneer among co-operative marketing agencies in this country is the Eastern Shore of Virginia Produce Exchange, which was organized in 1900. There are two counties on the Eastern Shore of Virginia—Northampton and Accomac—and it was for the purpose of saving the growers of these counties from growing poorer every year that the Exchange was organized. It has since extended its operations in a small way to a section of the Eastern Shore of Maryland, but the bulk of its shipments originates in the two Virginia counties. There are also other co-operative agencies on the Eastern Shore of Maryland and Virginia, but they have been organized more recently and the volume of their shipments is comparatively small.

Cooperative methods for the production, sale and distribution of farm products are more and more claiming the attention of growers of this country. Farmers are learning the lesson of modern business—specialization in the purchase of seed and fertilizers and in the sale and distribution of their products. Adopting group production and distribution, they are now organizing cooperative societies and are paying large salaries to men who are capable and willing to handle the affairs of these organizations, particularly to salesmen, traffic men and inspectors, all of whom become expert in their positions.

We are not far removed from that period when it was difficult to find a cooperative agency in any section of the country committed to the advancement of the farmer's interests. But with the acumen which takes into consideration the economic features of every industry, farmers are realizing as never before the immense possibilities of co-operative organization.

Cotton growers have formed societies which grade their cotton and supply the market sufficiently without glutting it. Apple growers of the West grade their apples through these agencies as to color and size and are thus able to outsell the growers of New York in their own market. Tobacco growers also are organizing cooperatively and in many tobacco-growing sections of the country marked economic benefits have accrued to the planters.

But probably nowhere else in this country has a greater revolution been wrought than in redeeming two counties in Virginia from ever increasing poverty prior to 1900 to the splendid progress and prosperity of the present.

And the fact that this system has been in successful operation for 23 years shows that it is founded on a safe basis and managed with ability.

In an effort to elicit accurate information as to whether or not the employment of cooperative methods in the production and sale of their products had been of any economic value to the growers, interviews were sought with officials of the Exchange, whose offices are located at Onley, with growers whose crops are sold through the Exchange, and with growers whose crops are sold independently of the Exchange, as well as with bankers who handle the funds of each, and others who are in a position to gauge the situation accurately and conservatively.

In this connection a statement of W. Hardy Taylor, assistant secretary and treasurer of the Exchange, is pertinent: "Farm land values have increased five hundred per cent

since 1900—the time the Eastern Shore of Virginia Produce Exchange began operations. While a part of this increase is a natural result of improved conditions that would actually take place over this period of time, yet the larger percentage of increase in land values is undoubtedly due to the improved cooperative marketing methods of the Exchange.

"During this period there has been a wonderful improvement in living conditions with the farmers. They have had more money to spend on education and social activities, their homes have been improved and a great majority of them have installed modern conveniences, such as electric lights, water, heat, etc. Automobiles have supplanted the horse as a means of conveyance and statistics prepared by the United States Department of Agriculture show that Accomac and Northampton counties have the highest crop value per acre of farm land of any county in the entire country."

George H. Powell, vice president and cashier of the First National Bank at Onancock, says:

"Before the days of cooperative marketing on the Eastern Shore the farmers shipped their produce to commission merchants in Baltimore, Philadelphia and New York, confining themselves to these markets. The commission merchants, after deducting their commissions, would send the shipper the balance which, in most cases, amounted to very little. At that time, however, shipments were made by the farmer in five, ten and twenty barrel lots. Since cooperative marketing was started, shipments have been made in car-load lots and the larger farmers ship several carloads per day.

The acreage has more than doubled, the land vastly improved by rotating the crops and sowing, and the yield per acre greatly increased.

"Prices obtained by co-operative marketing have been much higher than were ever obtained under the old system. This has been due to the fact that instead of confining ourselves to the three markets before mentioned—Baltimore, Philadelphia and New York—our products are distributed from Canada to Florida and as far west as Ohio and Illinois, and nearly all shipments are sold before leaving the Shore."

Improved conditions resulting from improved methods of marketing have also been the stimulus to better farming. It is the common practice of the farmer in these counties to gather three crops off the same land by using intensive methods and employing a sensible rotation. As an illustration: He plants his Irish potato crop in the early spring—and his potato crop is his principal one—then plants the same land to corn after he has finished working the potato crop, before harvesting. The corn is planted between the potato rows and does not interfere with the harvesting of the potatoes. When these have been removed from the ground, the corn is ready for working and is worked until it attains such growth that working is unnecessary. When the corn crop is harvested the land is sown to some cover crop which is either gathered in the spring for hay or is turned under for the enrichment of the soil. In either case, the land is ready for another rotation of crops.

Among the larger growers of Accomac County is J. Norman Belote, of Onancock, who employs scientific methods in the operation of his farm. He speaks as a man who entertains a big belief in the capabilities of the individual farmer

and a big belief in the possibilities of the farming industry. When visited he was in the field directing the operations of a tractor driven by a youth of 18 or 20 years, while other young men were engaged at different tasks. Mr. Belote makes a practice of employing young men on his farm—students many of them—by whom he has his work done and to whom he teaches practical farming. Many other farmers might follow this method with mutual profit to themselves and to young men who desire to learn farming.

When asked for an expression of his views as to the benefits accruing to growers from co-operative methods of sale and distribution of farm products, Mr. Belote explained that he was not a member of the Exchange, but with a partner handled the selling end of his own operations. He made this statement:

"If it were not for the co-operative methods which have been employed on the Eastern Shore of Virginia since 1900 for the sale of farm products, I believe the growers in this section would now be in a deplorable situation. These methods have undoubtedly stimulated the growers to a large acreage and the proceeds received for farm commodities have consistently increased."

V. S. Burton, assistant cashier of the Farmers & Merchants' National Bank, at Onley, and who is himself a grower, says:

"I think the co-operative marketing of our farm products has brought to our farmers untold benefits. We are now able to dispose of our crops to advantage and that fact has increased our farm land values as well as our bank balances. Without some kind of organization most of us would have to discontinue farming."

As the Irish and sweet potato crops are the principal ones raised in Accomac and Northampton counties, figures compiled by the Exchange covering its shipments of these two commodities since 1906 will serve to show the steady increases in production and distribution over a number of years.

It is estimated that the Exchange handles 70 per cent of the Irish potatoes shipped from these counties and from 80 to 85 per cent of the sweet potatoes. In 1906 it shipped 383,667 barrels of Irish potatoes and 560,343 barrels of sweet potatoes, its gross sales for all crops that year, including strawberries, cabbage, onions and miscellaneous commodities, reaching a total of \$1,647,414. In 1907 it handled 491,941 barrels of Irish potatoes and 486,424 barrels of sweet potatoes, the gross sales for all crops amounting to \$2,085,945. In the years immediately succeeding, the production of potatoes shows a consistent increase and for the most part there is a steady increase in the gross sales. Shipments of Irish potatoes in 1910 reached a total of 1,030,630 barrels and of sweet potatoes, 828,098 barrels, while the gross sales of all crops amounted to \$2,474,451. In 1917, total shipments of white potatoes reached 1,905,666 barrels and of sweet potatoes, 722,701 barrels, the gross sales of all crops being \$10,832,571.

The exchange reached its peak in gross sales in 1920, when it shipped 1,929,220 barrels of Irish potatoes and 828,920 barrels of sweet potatoes, the gross sales being \$19,668,642 including all crops. In 1921 shipments of Irish potatoes reached a total of 1,774,214 barrels and of sweet potatoes, 709,988 barrels, the gross sales for all crops amounting to \$9,370,473, while shipments for 1922 were 2,022,457 barrels of Irish potatoes and 816,593 barrels of sweet potatoes with a gross sale figure for all crops of \$9,511,124.

Figures for this year are not available, but estimates based on shipments of Irish potatoes already made place the total of that crop for the season at 1,700,000 barrels. Prices have been good—ranging as high as \$6.50 per barrel, with shipments very heavy as the height of the season approached.

The best day's shipments went forward on July 5, when

618 carloads, amounting to 122,600 barrels, were sent from these two counties. Prices for these ranged from \$5.25 to \$5.50 per barrel, estimates placing the amount of money the growers received at \$680,000 for the day. Conservative calculations would indicate that while shipments this season will show a decrease as compared with last year, gross sales will probably exceed those of last year because of the better prices prevailing this season.

The above figures are presented as showing increases which are largely attributable to the cooperative principle of handling crops. It is not difficult to connect these increases with the large increases in land values in this section. The writer was told that in the matter of buying or selling agricultural properties in these two counties the transfer was almost invariably made to a citizen of one or the other of the counties, as home people know the value of the land and are willing to pay the price, while outsiders unfamiliar with the values, are not willing to meet the prices offered by home purchasers.

By reason of labor conditions, it is stated that farmers are generally inclined to the idea of operating small farms of 30 or 40 acres rather than larger ones, and in the case of a recent sale in Accomac County a 30-acre farm without dwelling sold for \$20,000, emphasizing again the value of farm lands in this section.

**In its year book for 1922, the Department of Agriculture and Immigration publishes the following:**

**"Accomac and Northampton counties, Virginia, are two of the richest agricultural counties in the United States. In fact, it may be claimed that they have the highest crop value per acre of farm land in the entire country, although there are fifty counties having a total crop and livestock value greater by virtue of the fact that they have a greater area in farms."**

The year book cites figures from the 1920 Census Report which, it states, would indicate that the above claim is correct, for in 1920 the value per acre of all crops and livestock in Accomac County was \$121.24, and in Northampton County, \$135.72, against \$81.15 in Los Angeles County, California, and \$63.10 in Aroostook County, Maine. The following tables present a comparison of crop and livestock values in Accomac and Northampton counties, Virginia, with these values in the four leading agricultural counties in the United States.

County	Acres	Crops and Livestock	Value Per Acre
Los Angeles, Cal.	882,000	\$71,579,899	\$81.15
Fresno, Cal.	320,000	55,110,101	41.75
Aroostook, Me.	850,000	55,376,256	63.10
San Joaquin, Cal.	706,000	41,191,240	58.24
Accomac, Va.	156,000	19,135,032	121.24
Northampton, Va.	82,872	11,251,562	135.72
<b>Total</b>			
<b>Crop Values</b>			<b>Value Per Acre Crop</b>
Los Angeles, Cal.	\$61,864,479		\$70.14
Fresno, Cal.	51,861,252		39.29
Aroostook, Me.	52,241,205		61.80
San Joaquin, Cal.	37,956,866		53.76
Accomac, Va.	17,700,402		112.74
Northampton, Va.	10,388,369		125.31

From the foregoing it is quite plain that cooperative methods of farming in these two Eastern Shore counties have abundantly stimulated the growers to a larger acreage, to better methods of farming, also to large increases in production and they have undoubtedly been the means of obtaining better prices for all kinds of farm commodities. In the working out of this process of marketing, the middle man has not been eliminated, but he still plays a very important part in the system and does it to the material benefit of the grower as well as to himself.

This system has contributed more than any other agency perhaps to the immense wealth of these two counties, and altogether it means a revolution in economic and living con-

ditions. It means a finer development of the home and community life, more conveniences for the home and better facilities for the farm, better schools and teachers and better churches and preachers for the community. It also

means that the farmer is qualifying himself financially to meet the needs of his boys or his girls who desire to seek the best centers of education and of culture outside of that immediate vicinity.

## President Markham of Illinois Central Railroad Gives Remarkable Facts on Vegetable Industry in Mississippi and Louisiana.

### Mississippi Annually Shipping 4000 Carloads of Early Vegetables.

By C. H. MARKHAM, President Illinois Central Railroad Co.

The production of early fruits and vegetables for Northern markets has developed into the leading industry in certain extensive sections of Mississippi and Louisiana. Not more than forty years ago the first carload of fresh vegetables to be shipped from Mississippi was sent to Denver, and in the last two seasons, 1922 and 1923, more than 4000 carloads were shipped each year.

Mississippi leads the central South in the volume of vegetable production. The most extensive producing area in the state lies along the main line of the Illinois Central System between McComb and Jackson, a distance of seventy-eight miles. The Illinois Central System has kept its facilities abreast of the growth of its fruit and vegetable traffic. During the shipping season, the railroad maintains a fast refrigerator car service that has been a leading factor in promoting this industry. The development bureau of the rail-

in the latter state have the advantage of being two days nearer Northern and Eastern markets. The principal vegetables grown are tomatoes, cabbage, cauliflower, carrots, turnips, beets, beans and peas. They are planted during February, March and April. Small vegetables, such as radishes, lettuce, green onions, peas and spinach, are shipped throughout the winter. By raising a variety as well as a quantity of vegetables, growers are able to insure themselves against losses incident to an occasionally overstocked market. For example, Mississippi carrots this year paid the losses on less profitable products. The yield was about 500 hampers to the acre, and carrots brought the farmers an average of \$1 a hamper, packed for shipment. One grower raised 6000 hampers of carrots on ten acres and sold them for \$6000.

Crystal Springs, Miss., 159 miles north of New Orleans on the Illinois Central, is the premier vegetable shipping point



CUCUMBERS IN DE SOTO COUNTY, FLORIDA.

road organizes new communities into truck growing associations and advises the farmers as to the kinds of truck to grow, where to obtain seed, what portions of their farms are best adapted to truck growing, how to prepare the soil, the kind of fertilizer to use and when to apply it, and how to cultivate, gather and pack the crop. The men engaged in doing this development work are trained in the agricultural colleges.

The 1923 vegetable crop was less than that of last year, due to a severe cold wave that spread over the district in February, but in spite of this the vegetables marketed from Mississippi in 1923 amounted to 4115 carloads, as compared with 4300 carloads last year. The acreage this year was greater than ever before, and under normal conditions the crop probably would have reached 6000 carloads.

The Mississippi shipping season begins in May and continues throughout June. Vegetables from Texas come into competition with those shipped from Mississippi, but growers

of the state. Last year 2703 carloads were shipped from that one station. More tomatoes are shipped from Crystal Springs than from any other point in the world. Tomato shipments this year amounted to 969,059 crates, and they brought the producers \$1,162,870. Prices are net to the growers, the buyers paying the cost of transportation to destination. Last year 1,245,015 crates were shipped, bringing \$1,860,000 to the growers. Tomatoes were contracted for by the buyers at Crystal Springs last year at an average of \$1.49 a crate. This year the average was \$1.20 a crate. In 1921 tomatoes from Mississippi were distributed to 115 markets in twenty-eight states and Canada. Mostly these shipments went to points east of the Mississippi River. Connecticut, New Hampshire, Rhode Island and Massachusetts received a total of 180 carloads. Six states west of the Mississippi River absorbed fourteen cars. Canada received 205 carloads, thirty-eight of which went to Montreal.

The average vegetable farm in the Crystal Springs district

comprises about twelve and one-half acres. The growers have a co-operative organization for marketing their products and buying supplies. This organization has 140 members, which, it is said, represents about 20 per cent of the land-owning farmers in the district. The following records made in the Crystal Springs district illustrate the possibilities of early vegetables as a profitable crop:

One man rented a farm of 148 acres, paying \$175 rental, with an option to buy the property for \$3800 at the end of the season. He cultivated eighteen acres and marketed his crop for enough to pay for the farm and have \$64 left.

Walter Richards grew 4314 crates of tomatoes on six acres this year. He grows vines with two leaders on one root, and extra heavy stakes are used to support the vines and the tomatoes. His earlier tomatoes this year brought \$1.99 a crate; later ones brought \$1.25. His average yield was 719 crates to the acre. His average yield of carrots was 500 hampers and of cabbage from 150 to 175 crates.

D. R. Brewer is a son of the first vegetable farmer at Crystal Springs. This year he dug from one acre of land, which he had given particular attention, 1050 hampers of carrots, selling for \$1 a hamper. Other acres yielded from 500 to 900 hampers. This was in addition to other vegetables grown on his farm.

Another grower near Crystal Springs this year sold the tomatoes grown on two acres of ground for \$2000.

Observers estimate that vegetable growing will be engaged in next year on a scale never before seen in lower Mississippi.

Some go so far as to predict that the total acreage in 1924 will be nearly three times as great as this year. Growers are now preparing to plant a large acreage of fall cabbage and fall tomatoes. Local canning plants have offered \$20 a ton for bulk tomatoes. This is about double the usual price paid for canning tomatoes.

B. C. Simmons started in the trucking business in Utica, Miss., on a small scale in 1916 and has gradually increased his acreage each year. He has been so successful that he now helps to finance many of the growers who are starting in. During 1922, Mr. Simmons shipped from Utica and Carpenter, Miss., 335 cars of tomatoes and forty-two cars of other vegetables, including beans, peas, beets and carrots. Another Utica firm, the Utica Truck Company, shipped 110 cars of tomatoes and forty-one cars of miscellaneous vegetables. The total receipts of these two growers amounted to about \$375,000 for the season.

In recent years early vegetable growing has developed to some extent in western Tennessee along the route of the Illinois Central System. In Tennessee the margin between the close of the season farther south and the beginning of production farther north is shorter than in Mississippi, and, while vegetables may be profitably grown, the marketing season must necessarily be carefully timed to obtain the best results.

In Louisiana, vegetable growing is less diversified. Certain districts produce considerable quantities of beans, cabbage and potatoes. Two crops a year are grown regularly in that state, the fall crop maturing in September and October.



A QUALITY LABEL ON PRODUCTS CAREFULLY SELECTED AND PACKED.

and the spring crop in March and April. The premier industry of Louisiana for the small farmer is strawberry growing. In Tangipahoa Parish, which is quartered by the lines of the Illinois Central System, the largest strawberry producing district is to be found. Here, in an area forty miles square, are grown and marketed annually more than 1500 carloads of finest grade berries, the value of which last year amounted to more than \$3,100,000. The movement of the strawberry crop normally begins about March 1 of each year and continues until about May 1. The principal shipping points in the district are Independence, Hammond, Ponchatoula, Amite, Albany and Woodhaven. These stations average from 100 carloads to 400 carloads shipped during a single season.

The business of strawberry growing in Louisiana is now about twenty years old. Like vegetable growing in Mississippi, it was begun on a modest scale and has since grown to be an extensive and profitable industry. Berry farms range from five to eighty acres. Strawberry farms bring average returns of from \$200 to \$400 an acre. The soil and climate of Tangipahoa Parish are peculiarly suited to the successful culture of this fruit. The vines are planted in long ridged rows which are carefully cleaned of weeds and grass early in February, when the plants begin to send out leaves. A heavy mulching of dry pine needles is then put on to keep down weed growth and prevent the ripening fruit from touching the earth. At picking time the fields are gone over every day. More than 10,000 pickers were needed to harvest this spring's crop in the parish. About 75 per cent of the straw-

berry farms in the district are owned by those who operate them. A rigid inspection system under state supervision is in effect, insuring that none but fruit in first-class condition is shipped. In this way, Louisiana strawberries have established a big reputation for excellence and bring the best prices on the market.

Western Tennessee is making a notable development in strawberry growing. The season was about a week late this year, however, and returns were disappointing. Although the acreage devoted to strawberries was greater than last year, the crop amounted to only 1087 carloads as against 1262 carloads in 1922.

The northward migration of negro laborers, which has proved so alarming to Southern industries—cotton farming in particular—has had no effect upon the truck growing industry. Most of the strawberry and vegetable growers own their small farms and work them without help other than from the members of their families. There are Hungarian and Italian farmers among the strawberry growers of Tangipahoa Parish, and throughout the fruit and vegetable district are many farmers from the Northern states. The only extensive employment of labor is during the strawberry picking season, and in Tangipahoa Parish this problem has largely taken care of itself. Hundreds of women, boys and girls from New Orleans, Baton Rouge and other adjacent points find employment in the parish during the picking season.

Approximately 2000 cars of strawberries were shipped over the Atlantic Coast Line from the famous North Carolina strawberry belt during the 1923 season.



FINISHED PACK OF TOMATOES, READY TO BE SEALED.

# 95,255 Cars of Fruits and Vegetables Moved by the Atlantic Coast Line Railroad Company in 1922.

**This Traffic More Than Doubled in Ten Years With Assurance of Continued Heavy Growth.**

By JOHN L. COBBS, JR., Director of Public Relations Atlantic Coast Line Railroad Company.

The growth of the fruit and vegetable industry in the South Atlantic states is best told by the railroad shipments of these commodities. In 1913 the Atlantic Coast Line Railroad transported over its lines in Virginia, North and South Carolina, Georgia, Florida and Alabama, 566,177 tons of fruits and vegetables. Using 12 tons to the car as an average loading, the movement amounted to 47,181 cars. In 1922 it moved 1,143,067 tons or 95,255 cars of fruits and vegetables—an increase of approximately 102 per cent.

The principal items in the tonnage mentioned above are shown below:

CANTALOUPES		PINEAPPLES	
	Tons		Tons
1913	14,213	1913	12,794
1922	17,625	1922	32,598
CITRUS FRUITS		STRAWBERRIES	
1913	231,751	1913	6,043
1922	408,973	1922	6,653
OTHER FRUITS		VEGETABLES	
1913	24,626	1913	183,943
1922	29,881	1922	460,147
PEACHES		WATERMELONS	
1913	6,743	1913	86,064
1922	14,869	1922	172,321

It is not so easy to present actual figures showing the influence which the growth in the fruit and trucking industries has had upon the prosperity of the growers, but the following statistics from the U. S. Department of Agriculture Yearbook for 1922 for the potato and citrus fruit crops in Florida show the increased amounts received by the Florida growers and are indicative of conditions in other sections. In 1921 the Florida potato crop grown on approximately 17,000

acres amounted to 1,564,000 bushels and had a farm value of \$2,972,000. In 1922 there were 26,000 acres of potatoes harvested, which yielded 2,600,000 bushels with a farm value of \$4,550,000. In 1913 the average farm price of Florida potatoes was \$1.17 per bushel. In 1922 it was \$1.75 per bushel. In 1915 Florida produced 6,150,000 boxes of oranges with an estimated farm value of \$11,562,000. In 1922—8,400,000 boxes were produced with a farm value of \$19,320,000. In 1918 Florida produced 5289 cars of grapefruit and in 1922, 13,544 cars. No figures are available regarding the relative returns from the two crops.

There are presented below miscellaneous figures taken from the Yearbook which give some indication of the growth of the fruit and trucking industry in other Southern states:

WATERMELONS—CARLOT SHIPMENTS.		
	1917	1922
Georgia	9,530	13,143
Florida	3,622	11,008
Alabama	1,634	1,937
North Carolina	1,201	988
South Carolina	4,107	4,668

STRAWBERRIES—CARLOT SHIPMENTS.		
	1917	1922
Virginia	1,352	1,670
North Carolina	696	1,101
Florida	193	325
Alabama	196	459

LETTUCE—CARLOT SHIPMENTS.		
	1917	1922
North Carolina	181	619
South Carolina	161	859

CABBAGE—CARLOT SHIPMENTS.		
	1917	1922
South Carolina	663	3,286
Florida	1,413	3,022



TYPICAL OF THE ORANGE GROVES IN FLORIDA.

Aside from the actual cash returns to fruit and vegetable growers, observation leads to the belief that farmers specializing in these lines, particularly in those localities where the business has become well established, are more prosperous than farmers who rely upon the one crop cotton system. Fruit and truck growers usually plant some forage crops, or perhaps fall and winter truck, after harvesting their major truck crops. The production of forage and grain for the work animals and other livestock on the farm gives these farmers a decided advantage over those who grow cotton only and who have to buy feed for their stock and food for their families.

As examples of what returns can be secured two cases may be cited: One strawberry grower near Chadbourn, N. C., cleared this year more than \$10,000 from 14 acres of strawberries. Another grower in the same section marketed 350 crates of strawberries from 3 acres and received an average of \$6.50 per crate. An additional 100 crates were not marketed because of unfavorable prices. Other instances might be given in which the returns were equally as great.

The migration of negro labor to the North is the result of the law of supply and demand. The boll weevil has made necessary a change in the method of farming in many sections. The average negro farm hand is not adaptable enough to make such a change successfully and as a consequence he has been attracted by the offers of high wages in the North. His going will bring about certain readjustments in the economic scheme of things in the South but there is no reason why it should be disastrous for Southern agriculture.

The progressive Southern farmer has long realized that much farm work could be done more efficiently with machines than with negro labor, but because labor has been cheap and plentiful he has not gone to the expense of changing his methods. A shortage of farm labor will result in introducing labor-saving devices and probably a better type of farming than in the past. Undoubtedly there will be

more diversification of crops and more food, forage and livestock will be raised. So long as the world looks to the South for cotton and is willing to pay a price which will make it profitable to raise it, cotton will be the most important cash crop of the South.

It has not yet been established that the negro migration is permanent. In all probability there must be some advance in the price paid for labor in the South to bring it up to an approximate parity, all things being considered, with that which it can command in industrial centers of the North. The intelligent negro farmer and skilled laborer has not been greatly affected by the migratory movement thus far. He is content to stay South where he has found he gets better treatment and is financially better off than he can expect to be in the North. These people are comfortably fixed at present and with the continued improvement of their condition may be reasonably expected to stay where they are. The shortage of unskilled labor will rouse the white farmer to the adoption of better farming methods and probably to the growing of less exacting crops than cotton.

It must not be forgotten there are other cash crops which are of considerable importance to the South. In 1922, according to the U. S. Department of Agriculture Yearbook, the farm value of the peanut crop in the states served by the Atlantic Coast Line was as follows:

Virginia .....	\$4,290,000
North Carolina .....	4,547,000
South Carolina .....	1,368,000
Georgia .....	4,527,000
Florida .....	2,246,000
Alabama .....	5,412,000

Total for 6 States ..... \$22,390,000

The farm value of the tobacco crop was:

Virginia .....	\$37,620,000
North Carolina .....	93,003,000
South Carolina .....	13,248,000
Georgia .....	1,544,000
Florida .....	1,551,000

Total for 5 States ..... \$146,966,000

1922  
3,143  
1,068  
1,937  
988  
4,668

1922  
1,670  
1,101  
325  
459

1922  
619  
859

1922  
1,286  
3,022

While corn has never been considered a cash crop in the South, there has been a steady increase in the acreage planted and a doubling of the per acre production. With further improvement of growing methods corn will become one of the money crops of the South. In the same way there has been steady improvement in livestock production in the past few years. The gradual eradication of the tick is making it possible to raise good beef and dairy cattle, the quality of swine is being steadily bettered and standard bred poultry is being raised in many places. The time is not far away when livestock will be one of the South's important money crops.

From the present outlook there is justification for the opinion that the next ten years will see an agricultural development in the South which will make it the most attractive market in the nation. Particularly is this true with regard to the enormous supplies of fruits and vegetables demanded out of season by the industrial centers of the Northern and Central Western States.

### "CAN SEE NO END TO DEVELOPMENT OF SOUTH."

**Potato and Tobacco Shipments Alone 11,333 Cars as Compared With 5324 Carloads of Cotton.**

By G. R. LOYALL, President Norfolk Southern Railroad Company.

While the territory served by our railroad has a large acreage devoted to agricultural purposes and is capable of much further development, yet, as measured by the tonnage handled by our road, agricultural products make up but a comparatively small part of the traffic. I give below the

agricultural products. Next in importance are sweet potatoes, kale, cabbage, May peas and strawberries. The growing of May peas is a new development so far as our line is concerned, as it has been only within the past year or two that any considerable shipments have been made. During 1922, 209 cars were loaded and this year the estimate was 800 cars. However, unfavorable weather conditions had the effect of reducing the actual shipments to 409 cars. Other farm products also suffered because of the cold weather.

Another new development so far as our section is concerned is peaches. During 1922, 1012 cars of this fruit were loaded at local stations. This year the crop was estimated at not less than 1800 cars, but the freeze of the past April so affected it that present estimates are for only about 300 cars. Barring unfavorable weather conditions, the crop in 1924 should amount to 3500 cars, perhaps more.

While it is a little early to forecast the cotton and tobacco crops, we feel reasonably certain that shipments this year will at least be equal to those of last. Fertilizer shipments this spring were 15 per cent heavier than last year and under normal conditions larger crops may be expected. Largely because of the weather the potato movement is a little late this year and at the present time indications are that it will not be quite as heavy as the movement of last year. The boll weevil has not caused any great damage in our section, we being almost too far north, and due further to the fact that generally speaking only a comparatively small acreage is devoted to cotton raising.

While there has been some movement of negroes north, we have no accurate estimate of the number who have left our section, but so far the exodus has not proven embarras-



ONE HUNDRED ACRE BEAN AND TOMATO FIELD ON W. J. CONNER FARM, EVERGLADES, FLA. THE TOMATOES WERE PLANTED BETWEEN THE ROWS OF BEANS AND WHEN THE BEANS HAD FINISHED BEARING THEY WERE UPROOTED.

total number of tons of freight handled by our road during 1922, divided into classes, with the percentage each class bears to the total:

Commodity	Tons	Per Cent.
Products of Agriculture .....	397,060	13.07
Products of Animals .....	12,024	.40
Products of Mines .....	926,782	30.51
Products of Forests .....	761,640	25.07
Manufactures .....	715,944	23.57
Merchandise—L. C. L. Freight .....	224,461	7.38
Grand total .....	3,037,911	100.00

During 1922, a fair year, there were loaded at local stations on our line 5324 cars of cotton, 8033 carloads of tobacco and 3300 carloads of white potatoes, these being the principal

sing except in isolated cases. The greater part of our mileage is in North Carolina, and as that state has a larger number of manufacturing plants I do not believe that as many negroes have left as in some of the agricultural states further south. I can see no end to the development of the South. A trip through almost any section will disclose substantial building activity together with a healthy increase in manufacturing.

The Southern states produced 65,060,000 bushels of Irish potatoes, mostly early crop, in the season of 1922. The sweet potato crop was 100,288,000 bushels.



Walter Richards who has developed the Walter Richards' Special Tomato, known for their meaty centers. Mr. Richards lives near Crystal Springs, Miss., and says he makes money on vegetables every year. Note the remarkable size of the tomatoes.

## \$300,000 for Strawberries to One Town Where None Were Raised Five Years Ago.

### Typical of General Development of Fruit and Truck Industry.

By W. E. BABB, Editor Rock Island Railway Magazine.

The gist of your letter was a desire to know something as to the growth and development of the fruit and trucking branches of agriculture along the Rock Island Lines and particularly in the South where your great journal exercises such a commanding position in economic affairs.

This is a matter that cannot be shown by showing the development along individual lines of railroads. There are some very misleading things, as we will show later, that would develop from a statement so prepared and an attempted reconciliation of such a statement would be out of the question.

The only way to prepare such a statement is by states. In former years the figures issued by the Department of Agriculture were very meagre, but beginning with the year 1917 coincident with the establishment of the Bureau of Markets, the figures issued have been wonderfully accurate and are kept up to date every two weeks during the marketing season.

Those figures show that there has been an amazing growth of the vegetable and truck industry and that the volume of business moving by railroads approximates a thousand cars for every day in the year. They show for the Rock Island territory a wonderful growth in the states of Arkansas, Texas, Missouri, Oklahoma, Louisiana and Tennessee. They will show that the growth is steady, consistent and constant. They will show that where this industry is once established it is one of constant growth and that in but one direction, increased production and better quality. Where one year shows less production than another, it will always be found that there was a local reason for it and that in the succeeding year, it will come right back.

The trucking, fruit, vegetable and small farming industry in Rock Island territory has come to stay. It is getting better constantly and our facilities for handling it are always just a little ahead of the growth of the industry. An illustration of this is at Mansfield, Ark., where we have a station and facilities years ahead of the transportation needs of the town. Our splendid brick station and loading facilities at that place were installed to encourage the development of fruit and trucking in West Central Arkansas and are having that effect. The first year there were only five carloads out, but this year there will probably be about twenty and we expect it to grow right along until several hundred cars will be shipped out each year.

We said above that statistics based upon any one railroad or an attempted combination of all railroads would be both worthless and misleading. Let us illustrate this: The normal crop of strawberries in White and Lonoke Counties, Arkansas, is between 700 and 800 cars annually, and we probably do not handle ten cars a year of that crop, although we operate in both counties. In Missouri, the watermelon crop runs close to three thousand cars annually, but we probably do not handle a car of watermelons. In Arkansas, the cantaloupe production reached 1500 cars in 1921 and since 1919 has averaged approximately 1000 cars a year. We get practically none of it.

This is due to traffic conditions and has no relationship to production. Conversely, we enjoy an immense movement of cantaloupes from California and from Colorado, cantaloupes

and potatoes, none of which are grown on our lines, and the same is true of the Gulf Coast of Texas, the winter vegetable garden of America.

We will now point out a few truck districts along our lines that are of constantly increasing importance and the products of some of which are well known in the great consuming centers:

Oklahoma: The Oklahoma watermelon crop centers around Rush Springs and Terral and we get the most of it, running from three hundred cars up.

The Oklahoma Irish potato crop centers around Shawnee and runs close to 2,000,000 bushels. We get much of it inasmuch as Oklahoma is one of the states that does not raise enough potatoes for home consumption.

Texas: McLean, Texas, in the heart of the Pan Handle, grows the so-called Plains watermelons that are very famous in Texas and the Southerner knows what a good watermelon is. These watermelons come on the market when Southern Texas is out of watermelons and most of them go to Houston, Galveston and San Antonio. We get all of the crop, from seventy-five to two hundred cars. There is a small stretch of sandy loam sub-irrigated soil here just right for the watermelon and the development of this industry is one of the agricultural romances of the plains.

Kansas: Northeastern Kansas in the vicinity of Bern, Wathena and adjoining section is an exceptionally fine fruit district. We get most of the products, viz. apples, strawberries and raspberries, etc. for the Northwest.

There is quite a commercial potato district in the Kaw Valley around Topeka and between there and Kansas City, and also in the Arkansas Valley around Hutchinson and Garden City. This crop is quite important on account of the fact that the average Kansas farmer does not raise his own potatoes, consequently, nearly all of this crop enters into commerce. This section produces about 3,000,000 bushels annually. We get quite a few cars of potatoes from Dodge City for Southwestern Kansas and the Pan Handle.

Louisiana: A good strawberry, Irish potato and truck district is being built up around Alexandria.

We assisted in conducting some strawberry experiments around Hodge this year. A fine berry was produced and we are confident that section will soon become a carload shipper.

Arkansas: What will soon become one of the most important trucking districts in the United States is now being built up around the Rock Island Lines on the west bank of the Mississippi River. This district is already supplying Memphis with much of its truck.

The famous Bert Johnson orchards of 3000 acres, with their own individual brand known on most of the leading markets, is located at Prescott, but not directly on our lines.

Missouri: There is no state in the Union where interest in fruit, truck and small farming is growing so rapidly as in Missouri, but it so happens that none of this development is on our lines. For example, one town in the Ozarks of Southern Missouri received over \$300,000 for strawberries for this (1923) season alone, although five years ago they did not sell a dollar's worth of strawberries.

General: The Rock Island Lines have always been noted as carriers of the great staple agricultural products of grain, livestock, cotton and the combinations and products manufactured therefrom. No great exclusive fruit and trucking districts exist along our lines, but there are numerous small ones which will have a constantly increasing importance.

# The Wonderful Outlook and Possibilities of Southern Agriculture Typified in the Enormous Growth of Fruit and Vegetable Shipments North and West.

## An Unbroken String of Refrigerator Cars Carrying Southern Food Products.

By W. L. MAPOTHER, President Louisville & Nashville Railroad Co.

Before the advent of the modern steam railway service, the housewife scarcely dreamed of the possibility of supplying her table with fresh fruits and vegetables the year through. To her, then, such was only for the short period of the home garden season, while for the other portions of the year she must depend on having a larder well filled with dried, preserved or otherwise stored foods.

But now, how changed, with the health-giving and appetite-stimulating, natural foods, fresh from the garden, practically every day and every meal. Who shall now say when this or that vegetable is in or out of season? Distance and seasons are almost eliminated. Your home gardens and fields may be frozen or snow covered, but the great transportation systems of the country have made it possible even then to bring to your table fresh delicacies from the lands of winter sunshine, fruits and flowers.

The number of carloads of the fresh fruits and vegetables now moved annually to meet the ever-increasing demands for such, runs into the hundreds of thousands. The Louisville & Nashville, a direct north and south trunk line, has played not only a very conspicuous part in the efficient transporting of these perishable products, but has been, through its agricultural department, a very important factor in the

encouraging, fostering and developing, in the territory it serves, the type of farming that not only produces these foods for the distant markets, but produces as well the foods needed for home consumption. A recent survey by the Agricultural Department shows that the farmers of the Southern states are now producing a larger per cent of the "home consumed" foods, than are the farmers of any other section of the United States.

The encouraging of diversified farming as a foundation on which the production of truck, fruit, etc. is added as specialties, or money crops, has been the practice of the railroad agricultural advisors, so that any statistics showing shipments of perishable products by no means represent the extent of agricultural activities, nor even the amount of the respective products raised. As a specific instance: The South produces about 91 per cent of the sweet potatoes of the United States. Alabama ranks first, with an annual production of about 13,000,000 bushels. In 1922 Alabama produced about 12 per cent of all the sweet potatoes raised in the Southern states, yet it shipped less than 3 per cent to outside markets, the principal part being used as a home food.

Two crops of sweet potatoes are annually produced in these Southern states. Of the first or early crop, the shipments



CABBAGE FIELD NEAR WINTER HAVEN, FLORIDA.

will be from fresh-dug potatoes, while of the late or fall crop the shipments will be from cured material, and may be made any suitable time throughout the winter or spring. The sweet potato shipments originating in Louisville & Nashville territory and going to northern markets in 1922 were in excess of 1000 carloads.

In the same year the Louisville & Nashville carried to the early northern markets over 2000 cars of Irish or white potatoes, these coming for the most part from the Gulf Coast territory.

In this territory has taken place in the past few years some

were moved from Southern fields to Northern tables. Onions, green peas and snap beans about 200 cars each, and peanuts over 250 cars, while tomatoes, for the most part wrapped partially green, to ripen in transit added another 100 cars, in the season of 1922. Cabbage, in small part as loose heads to be used as greens, and in larger part as firm heads, contributed approximately 700 cars to the foregoing.

The earliest of Louisville & Nashville strawberry shipments begins about January, and continues in an unbroken series up to about the middle of June. The movement starts with the Gulf Coast territory, and progresses by continuous steps



TYPICAL FLORIDA CELERY FIELD.

of the most remarkable agricultural development to be found anywhere in the country. A single county, for example, which fifteen years ago was scarcely more than a pine woodland, and not shipping a single car of farm products, today is thickly settled with farmers operating on a permanent, diversified basis, and shipping several thousand carloads of fruit and vegetables in a season. From here, in 1922, was moved over 300 cars of cucumbers alone, and in about one month's time, in 1923, there was moved over 500 cars of the same salad commodity.

The Gulf Coast territory is the restricted area in which the most delicious of citrus fruits, the Satsuma, is undergoing a most rapid industrial development. In 1922, 337 cars were shipped; while in 1919 but 30 cars; and the increase in shipment in the next few years will be very much more rapid, as the more extensive plantings will then be coming into bearing. From the Gulf ports, but not produced in that territory, there were moved over the Louisville & Nashville more than 3300 cars of bananas.

Of other vegetables, originating for the most part in this more southern section, and produced primarily for the early spring northern market, the Louisville & Nashville carried in 1922 over 1000 cars of radishes, carrots, spinach and lettuce, either separately or in mixed lots.

Watermelons and cantaloupes to the extent of 6340 cars

through Alabama and Georgia, into Tennessee, and terminates in northern Kentucky. The number of cars of this fruit moved in 1922, from the above fields, was in excess of 2000.

Canning pears from the more southern orchards, followed by the pears and apples, for the most part from Tennessee, Kentucky and the northern portions of Alabama and Georgia, added another 500 cars to the 1922 movement. Peaches, plums and cherries contributed about 100 cars.

With the stimulation of production to supply distant markets with fruits and vegetables as fresh as possible, there has arisen a growing demand for transportation under refrigeration. This may be illustrated as follows: Refrigerator cars originating on the Louisville & Nashville from 56 loading points, totaled in 1920—2160; in 1921, from 63 loading points, totaled 2718; and in 1922, from 101 loading points, totaled 4072. Refrigerator cars carrying fruits or vegetables over the Louisville & Nashville but originating outside, totaled 6901. In short, during 1922, the Louisville & Nashville carried over its lines, 10,973 cars of fruits and vegetables under refrigeration. The number of cars moving under ventilation, but not refrigeration, was doubtless even larger. Such figures are but indices or pointers; even in the lines of fruits and vegetables only, they by no means tell the full story of Southern agricultural development, its possibilities or its wonderful outlook.

## Reclamation Turned a Desert Into a Garden.

### Remarkable Development of the Gulf Coast Section of Texas.

By C. W. STRAIN, General Passenger Agent, Gulf Coast Lines.

Down where Mexico joins the United States, near the Coast of the Gulf of Mexico, on the line of the Gulf Coast Lines, which connect Brownsville, Texas with New Orleans, there is being developed in the Lower Rio Grande Valley, an agricultural and citrus fruit industry that affords an object lesson to the world, showing the wonderful results that can be obtained with irrigation and modern methods of agriculture.

By the skillful use of water from the Rio Grande, what was formerly a desert of mesquite and sagebrush has been made to blossom like a rose.

Thousands of farmers are being attracted to the Valley from all parts of the United States and new towns and cities are coming into being, their prosperity built on the surest of all foundations—agricultural development.

The Lower Rio Grande Valley is in reality the delta of the Rio Grande. It is in the shape of a triangle and it is the most southerly portion of the mainland of the United States.

The rich soil deposits of the river have built up the land, giving it great fertility, and the expenditure of something

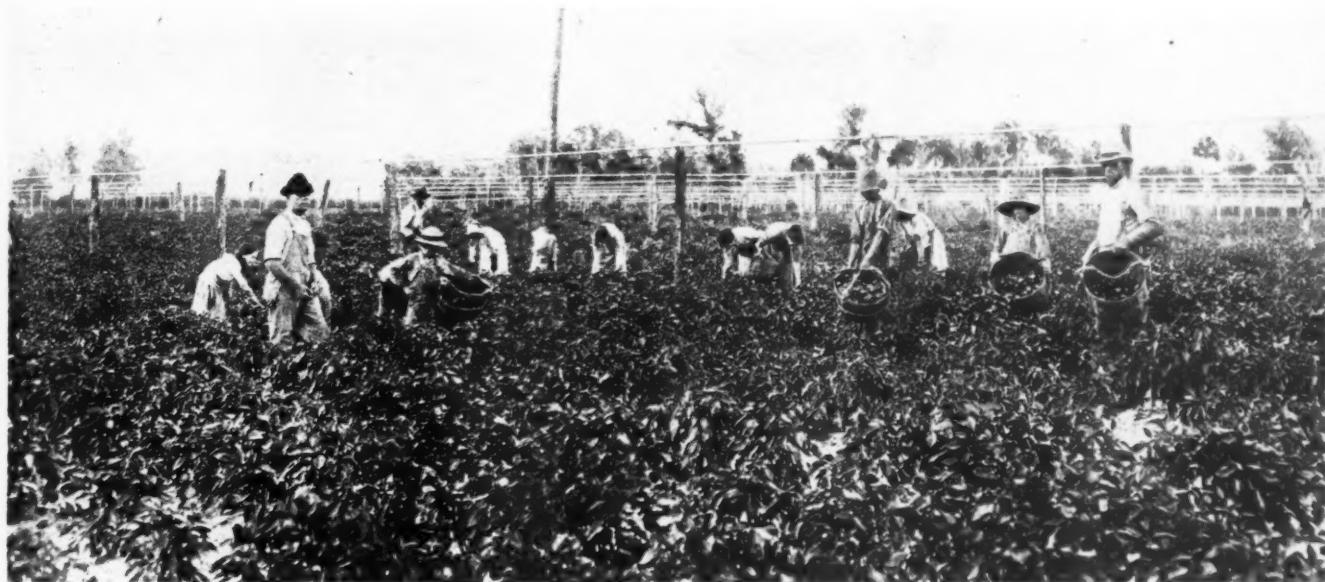
61 of lettuce, 373 of Irish potatoes, 1862 of mixed vegetables, 63 melons, 116 tomatoes and 278 miscellaneous vegetables.

During the season just closing it was demonstrated that cantaloupes can be produced for the market three to four weeks earlier than in any other section and more than a hundred carloads of delicious melons were produced and shipped during the May season.

In 1904 less than 1000 bales of cotton were raised in this territory; cotton follows, to a large extent on the same lands used for winter truck crops. In 1922 there were over 52,000 bales shipped, and from the indications at this writing (July 1) it is conservatively estimated that 125,000 bales will be produced in this same district during the current season. This means, under present conditions, pouring not less than \$12,500,000 into this limited area.

Comparative records of the United States Weather Bureau, show that the climate of the Valley is high in winter because of its sub-tropical location, and low in summer, because of the cooling Gulf breezes.

The mean temperature of August, the hottest month, is



PEPPER FIELD AT BARTOW, FLA.—GROWN UNDER OVERHEAD IRRIGATION.

more than \$11,000,000 on irrigation plants, has placed nearly half a million acres under irrigation.

Of the total amount of irrigated lands, slightly more than 200,000 acres are in cultivation, but at the present rate of increase, the entire acreage, for which irrigation is available, will undoubtedly be intensively cultivated within a few short years.

The population of the State of Texas from 1910 to 1920, showed an increase of 19.7 per cent. The increase in the irrigated section alone for the same period was 82.8 per cent.

The assessed valuation in the two principal counties of the irrigated section, seventeen years ago was \$6,500,000. In 1920 it had risen to \$50,500,000.

From 1907 to 1920 inclusive, there was an increase of 728.8 per cent in production and shipment of vegetables from the Valley. In 1907-08 there were 761 cars of vegetables shipped in solid car-lots. In the winter season 1921-22, there were 6700 cars, consisting of 3435 cars of cabbage, 312 of onions,

86 degrees, while that of January, the coldest month, is 58. The mean annual temperature is 72.

The soils vary in various portions of the Valley, ranging from the heavy silt to the black, sandy loam. All are extremely fertile and productive and of very good depth. They are suited to an unlimited variety of crops and particularly have they proven wonderfully adaptable for citrus fruits.

The citrus industry, due to the necessary acquirement of age, only reached the beginning of commercial production during the past season, when slightly more than 200 carloads of grape fruit and oranges were shipped from that territory. At present there are 1,650,000 trees of citrus fruit planted in the Valley, of this number only about 10,000 reached the bearing stage last year. It is estimated that forty to fifty thousand should reach the bearing stage during the winter of 1923-24, producing 800 to 1000 carloads; that the following year, with the increased age, should produce three to four

thousand carloads and that within the course of four or five years, from 10,000 to 20,000 cars of citrus fruit, the grape fruit being of a highly superior quality, will be shipped regularly from this "Wonderland."

Using the statement of a current magazine article on the past year's production, the writer estimates that the 10,000 trees produced not less than \$150,000 in revenue; therefore, that when the 1,650,000 trees, now planted, are in commercial bearing, they will have a revenue power of \$24,750,000. With an average of 70 trees to the acre, this gives the Valley citrus orchard an approximate gross earning power of \$1000 per acre. There is no longer doubt in the minds of the citrus

It is worthy of note that the thriving little city of Robstown, with less than 3000 inhabitants and serving parts of each of these three counties, claims more cotton gins than any other point in the world. Seventeen cotton gins will operate at this place the present season.

In addition to mention of these particular cotton producing sections, there is promised a very heavy production in Refugio, Calhoun and Victoria Counties.

Within the same territory south of Houston are the great sulphur deposits at Gulf and Freeport, Texas, the largest in the world.

Houston, the center of the Gulf Coast territory covered by



CRIMSON CLOVER AMID PECAN TREES OF J. W. FORD, MONTGOMERY COUNTY, ALA.

fruit growers in this section about their future. It has been proven they have a good thing, and then will keep on.

The Rio Grande Valley is not the only territory served by this important railroad, connecting New Orleans and the east with the Southwest and the Republic of Mexico at the Brownsville, Texas crossing.

In the Gulf Coast Lines president's annual report to the directors and stockholders, the following information is shown as to classified freight tonnage *originating on our own rails* during the year 1922:

	Tons
Products of Agriculture—Grain, cotton, fruits, vegetables, etc.	336,244
Products of Animals—Live stock, packing house products, eggs and dairy products .....	29,572
Products of Mines—including crude petroleum, gravel, sand, salt, asphalt and sulphur .....	246,570
Products of Forests—Lumber and timber .....	325,461
Other Manufactures and Miscellaneous Products, such as refined petroleum, sugar, molasses, cement, brick, machinery, etc. .....	201,158
Total .....	1,139,005

Using an average of 20 tons per car, there were 56,950 carloads of the products most necessary to the world, produced in the territory served by this road and shipped by it. In a section comprising one-half of what is called the Gulf Coast territory, there are other railroads, at least sufficient to estimate a total output of over 100,000 carloads a year.

Throughout the 350 mile strip of this territory in Texas, between Houston and the irrigated Lower Rio Grande Valley, there are many extensive cattle ranches, notably the King Ranch, one of the largest and undoubtedly the finest ranch property in the world.

Notwithstanding the fact that several thousand acres of this ranch property are highly developed for farming purposes and towns, there yet remain about one and one-quarter million acres in the ranch proper.

Interspersed with the ranches in this territory are many thousands of acres of farm lands, producing particularly cotton and feed. For example, three counties, Nueces, Kleberg and San Patricio, parts of each included originally in the King and Taft ranches, should produce this year, not less than 155,000 bales of cotton.

these lines, is a thriving industrial center and almost surrounded by oil fields.

About 60 miles east of Houston the Gulf Coast Lines again enter the oil fields, passing the celebrated Hull and Sour Lake fields and emerge from these into the most extensive rice district in Texas.

From Beaumont east, across the state of Louisiana to New Orleans, is a panorama of extensive forests and lumber mills, rice and sugar cane, dotted here and there with the necessary volume of other agricultural staples. Here also are the great salt mines in Jefferson Parish.

These facts cover the production in the territory of just one of the small, but highly important, railroads of the South. The Gulf Coast Lines extend through something more than 1000 miles of territory and aside from their exclusive citrus fruit and winter truck production, it is perhaps true that many other Southern railways can show equally as large production of the necessities of life coming from the South.

There is at present a rapid development of the Lower Rio Grande, into which region there is now moving a greater number of homeseekers from the north, central and Mississippi Valley states, than any similar movement to any section of the country I know of.

These homeseekers are usually handled in one or more sleeping cars by various land companies operating excursions from the north and middle states twice each month. Since January of this year, we have handled more than 250 special sleeping cars, occupied by more than 6500 homeseekers.

This movement has been almost equally divided during the past four months, but, as in past years, it is heavier during the winter months, January and February amounting to about 3200 passengers.

Of those who go to the Valley to investigate the territory, it is conservatively estimated that 15 per cent purchase lands for citrus and other purposes. Necessarily the high price of the lands, means that a purchaser is more or less well to do and is seeking a comfortable winter and all-year home in a mild climate, where production on small acreage will pay.

## Central South Not Dependent Upon Cotton for Agricultural Prosperity.

**In 1921 Over 16,000 Carloads of Watermelons and 9900 Carloads of Peaches Shipped from Georgia—Stock Raising on Large Scale Predicted for Georgia and Alabama.**

By WM. A. WINBURN, President, Central of Georgia Railway Company.

The experience of farmers in the territory of the Central of Georgia Railway affords ample proof to refute the erroneous opinion that the South is still solely dependent upon cotton for its agricultural prosperity. During recent years fruit-growing, stock-raising, trucking and poultry farming have made progress to an extent little realized by those who have not kept informed of the situation.

The lines of the Central of Georgia Railway penetrate into all sections of Georgia, from the mountains to the sea-shore, and the eastern half of the State of Alabama. Practically all of that territory was formerly given over to the production of cotton as a money crop. While corn and small grain was produced in considerable quantities, chief com-

Georgia Railway. The largest crop was packed in 1921 when 9944 cars were shipped from all points in the State, 7343 of which were produced on the Central.

Other efforts at diversification were delayed until the approach of the boll weevil in Alabama in 1912 aroused the farmer, merchant and the banker to the necessity of bridging the period of boll weevil infestation with food crops and animal industry.

The Agricultural Department of the Central of Georgia Railway had a part in the effort to encourage diversification in its territory before the appearance of the weevils. In 1911 the practice of offering livestock prizes in the form of boars and bulls for winners of Boys Corn Club and other club con-



FIELD OF WATERMELONS IN POLK COUNTY, FLORIDA.

sideration was given to the cotton crop, causing more or less neglect of all the others.

Probably the first effort at diversification occurred in south and southeast Georgia about forty years ago when the cultivation of watermelons was undertaken in a commercial way. Maximum production in the State occurred in 1921 when 16,140 carloads were shipped. In that year 3802 carloads were shipped from points on the Central.

The next important step in diversification occurred a few years later when Samuel H. Rumph, of Marshallville, Georgia, propagated the Elberta peach at his Willow Lake Farm, near Marshallville. His work was ably seconded by J. H. Hale, of Connecticut, at his Fort Valley Farm, and in 1898 the peach crop was perhaps first recognized as an established commercial proposition, an an important addition to the wealth of the State. In that year 1733 cars of peaches were shipped from Georgia, practically all of which were produced in the Fort Valley-Marshallville district of the Central of

tests was inaugurated. These prizes greatly stimulated the membership of the clubs and the success of the club work as well by arousing interest in the raising of better livestock.

In 1912 the first Central of Georgia Test Farms were established to make practical visible tests of a complete system of diversification and crop rotation as recommended by the Agricultural colleges. The test farmers agreed to work approximately forty acres of their land according to college methods under supervision of the Company's agriculturists, and were guaranteed against loss by the railroad company. From ten to twenty-nine such farms were operated each year until 1918. The record of returns from the crops made, and all costs of production including rent, labor, fertilizer, seed, and marketing expense, proved that the methods used were profitable.

Bright leaf tobacco, grown under the supervision of a tobacco culturist employed by the Central to show the farmers of southeast Alabama how to grow and cure this crop,

then new in that region, helped tide that section over the first period of heavy weevil damage from 1915 until 1918. Instead of experiencing the usual demoralization, they came through this trying time with more money in their banks than ever before.

The Central's territory in Georgia has not contributed largely to the production of garden crops. Aside from less than 100 cars of asparagus, which were grown largely in the vicinity of Marshallville, and a correspondingly small amount of beans, Irish potatoes and similar crops, which are grown in the vicinity of Savannah, the trucking interests are located on other roads, but there is a vast and attractive field for the growth of fruits and vegetables in practically every part of the territory which the Central traverses; notably, the cultivation of strawberries between Rome and Chattanooga; of dewberries and huckleberries in middle and south Georgia; of all the vegetable crops in the vicinity of Savannah, and a large increase in the growth of asparagus in the same territory which the peach orchards occupy.

While the present loading of livestock cars at Central of Georgia points is but little more than a third of the number of cars loaded with peaches, the steadily increasing demand for livestock cars is a most hopeful indication of future agricultural prosperity.

While poultry-raising is yet a minor interest, it is significant that for the year ending July 1, 1923, there were sold

ly cotton check and a semi-monthly cream check, is further evidence of the tendency toward a proper balance between livestock and crops in the South's farming system.

The most encouraging feature in connection with stock raising possibilities is the recent discovery that Georgia and Alabama can have permanent pastures which equal and probably surpass in carrying capacity those of the most famous pasture regions of this country. Three years ago this was not known, but it was realized that the South must have much better pastures if it hoped to compete with other sections in stock raising. At the end of Government control of railroads it was announced that the Central of Georgia would pay half the cost of building a permanent pasture in each of the counties served, and in February and March, 1921 forty-four test pastures were seeded with lespezeza, carpet grass and dallis grass. These pastures have proved that the choice of these three plants as best suited for permanent pastures in this section was exactly right. Records kept of the grazing afforded in 1922 by these forty-four pastures with a total acreage of 1068, show that an average of more than one and two-fifths head of mature cattle, or their equivalent, were grazed per acre, for a period of more than nine months.

It was found that nature has been at work for years, spreading these plants over this section, and unaided would, in the course of a hundred years or two, give the Southeast better pastures than those of the blue grass section. All



PEACH ORCHARD AND PACKING SHED NEAR FORT VALLEY, GA.

107 carloads of poultry from Georgia, while for the previous year but 12 carloads were marketed.

The raising of better livestock has been consistently encouraged by the railroad's agricultural department. The eradication of the cattle tick gave an opportunity to import good sires to grade up native stock without fear of tick fever. From 1914 until 1918 thirty-three carloads of registered cattle were purchased by the railroad's representatives to fill orders from farmer friends, and shipped into Central of Georgia territory. This boom for better cattle was followed by a reaction due to inflated prices for both stock and feed stuffs, but the imported cattle have done well, the number of grade cattle is steadily increasing, and growing demand for good stock may be expected.

The success of the several creameries started within the past few years, and the increasing number of new milkers who have learned to appreciate the difference between a year-

that is needed is to accept nature's plans, and help by sowing the seed of these plants which are so well adapted to Southern soils and climate that they are fighting their own way and will eventually do what blue grass has done for the sections to which it is adapted.

It has been proved beyond the shadow of a doubt that with an expenditure of \$4.00 to \$5.00 an acre, at present seed prices, that low, moist lands, now considered waste and producing little or nothing, can within eighteen months be converted into permanent pastures, which will afford at least as much grazing as any in the United States.

The rapidly growing interest in the building of such pastures makes it certain that Georgia and Alabama, with their other natural advantages for stock raising, will become producers of pork, beef and milk at such profit and in such quantities as will soon place them in the front rank of the livestock producing states in the Union.



At top—Vineyard Scene—Waldensian Colony, Valdese, N. C. In center—A Mississippi field of Irish potatoes in February. Bottom—Cabbage field near Columbia, S. C.

## Seaboard Air Line Territory's Fruit and Vegetable Progress.

**The South's Fruit and Truck Growing Sections Have Not Felt Any Depression But Have Amazingly Prospered.**

By JESSE M. JONES, General Agricultural Agent, Seaboard Air Line.

Six Southern states: Florida, Georgia, Alabama, South Carolina, North Carolina and Virginia are penetrated, crossed and recrossed by the Seaboard Air Line Railway. It operates rapid through freight and refrigerator service which delivers the perishable fruits and vegetables of these states to the consumer in as fresh a condition as if they came from a nearer market.

The wonderfully attractive and productive Atlantic Coastal Plain of these states is the winter and early spring green-



PEANUT FIELD IN JACKSON COUNTY, FLA.

house and market garden of the eastern half of America. Within it the tenderest of vegetables and fruits are produced out of doors during the coldest month of the year.

The earliest vegetables are produced in Florida. These are followed by successive crops from southeastern Georgia, the South Carolina Coast, then North Carolina and Virginia. The season advances northward along the coast at an average rate of about 13 miles daily.

The season for fresh vegetables in the northern markets is in this way extended until the local crop appears. The demand for these early vegetables is very great and ever increasing yet they are furnished at a cost that allows the families of moderate means to purchase them.

The markets of the eastern half of the United States and Canada are dependent upon vegetables from these states from January to July. A study of the carloads shipped shows something of the astonishing amounts raised to supply these markets.

Florida this crop season has shipped up to June 6, 6158 carloads of celery, 2985 carloads of potatoes, 2555 cars of lettuce, 9150 cars of tomatoes, 1654 cars of cucumbers, 1121 cars of cabbage, 906 cars of peppers and 3786 cars of mixed vegetables as beets, peas, egg plant and so on. In addition there will likely be over 3000 cars of watermelons and almost 200 cars of cantaloupes.

Georgia follows up Florida and in 1922 shipped as follows: Potatoes 521 cars, cabbage 162 cars, asparagus 100 cars, watermelons 13,141 cars and cantaloupes 299 cars, besides large mixed car-lots and express shipments of peas, beans, cucumbers, early corn, lettuce, beets, radishes, tomatoes and other vegetables. In July early sweet potato shipping begins and continues throughout the year. In 1922, 1351 cars were sent to market.

Official records of the trucking industry in South Carolina give an idea of the volume of the movement. These show that for 1922, there moved 4352 cars of potatoes, 3218 cars cabbage, 137 cars spinach, 859 cars lettuce and romaine, 141 cars tomatoes, 122 cars asparagus, 696 cars of mixed vegetables, 4500 cars watermelons, 299 cars cantaloupes, then followed 136 cars of sweet potatoes.

In 1922, North Carolina moved out potatoes 4120 cars, cabbage 154 cars, lettuce 619 cars, watermelons about 600 cars, cantaloupes about 450 cars, sweet potatoes 1018 cars besides large quantities of other perishable vegetables.

Here are records of nearly 70,000 cars of vegetables that move from these four states in what might be termed one year's time. They bring tens of millions of dollars to the pockets of growers. To these must be added the large and growing fruit crops.

Truck farming is an industry in which there is a larger



BEETS IN NORTH CAROLINA TRUCK GARDENS.



A MILE OF PEARS, MARSHALLVILLE, GA.

amount of capital invested and which carries greater risks than general farming. The hazards are quite as heavy as in ordinary industrial and commercial lines.

While high yields and large profits are made almost every year, those most conservative and longest in the trucking business say a fair net return that can be expected year in and year out, say over a five year period, from each crop grown is \$200.00 per acre. Two or more crops each season can be produced on a piece of ground.

A large Florida grower gives us the following:

"To show what can be produced on a given acreage in twelve months, on November 1 the land was planted to lettuce, and the crop marketed during January and February. In February cucumbers were planted between the lettuce rows. This crop was marketed during March and April. In March I planted peppers between the cucumber rows, and harvested through May and June. After these crops corn was planted and produced without additional fertilizer, reaching maturity before time for planting fall crops."

This system of cropping is modified to suit the grower and the seasons, as fewer crops can be grown for instance in Tidewater, Virginia, where the crop growing season is 200 days free from frost, than in southern Florida where official reports say that in one-half of the year there will be no killing frosts.

Truck growers must take prompt action to be able to supply the demand of consumers when it comes their turn to supply the large markets with fresh vegetables. These crops are easily injured or ruined. If the earliest should be killed any place within the trucking area of the states before mentioned the farmers at once replant or reset their field to the same or another crop and sell a little later. Sometimes their profits are large because of similar crop setbacks elsewhere. One of these years a large planter up the coast made over \$100,000, on potatoes alone, another is reported to have given \$25,000 in bonuses to his farm labor.

This article would not be complete without mentioning citrus fruits, peaches and other fruits.

Florida from the beginning of the season September 15, 1922 to June 6, 1923 shipped 24,312 cars of oranges and 17,987 cars, of grape fruit. Florida each year has witnessed a substantial increase in the supply of both oranges and grape fruit.

It had 11,500,000 citrus trees according to the last census taken. Good authorities believe that there are now 14,500,000 citrus fruit trees, and plantings are being continued.

Government records on 100 south Florida citrus farms show

the profits on capital invested after paying every expense during the five year period, 1917-1921 were 11.4 per cent on groves cared for by the owner and 12.4 per cent where the groves were looked after by a caretaker. During this time the groves also doubled in value.

This spring 1063 carloads of strawberries were shipped north. Harvesting of strawberries in Florida begins about January 1 in the Plant City section, and from February 10 to March 10 depending on the season in the more northern section in Bradford County, although a few berries are usually picked in both sections before December 1. By April 10 cars are moving from North Carolina and South Carolina. The Norfolk section of Virginia comes in April 25. The Carolinas have already shipped around 1650 cars this season.

From 7000 to 10,000 cars of the south Georgia peaches go forward to markets each year. The acreage is increasing enormously. Some of this is south of the large belt which is resulting in the heavy movements starting earlier in the year than formerly.

Carload shipments of peaches from Raleigh to Columbia in North and South Carolina have increased rapidly during the past four years, and follow directly after the Georgia crop. Such shipments filled 1452 cars in 1922, 594 in 1921, 355 cars in 1920 and only 77 cars in 1919. By another year there will be close to 3000 carloads for shipment, and plantings now made insure 5000 or more cars in four years. Before the peach movements begin the dewberry crop has been harvested. This averages a little above or below 300 carloads annually. Dewberry vineyards in the Carolinas are being developed over a wider area yearly.

Thirteen cars of dewberries—the first ever moved in carlots—went from south central Georgia this year. In former years express took care of all raised. The acreage of these is also being extended.

Thus it is that each year vegetables and fruits from the Atlantic Seaboard fill a prominent place in the large markets of the North and East for fully eight months of the year. Many of the farmers engaged in the growing of these crops also produce general crops as grain, hay, cotton and tobacco.

It is an astonishing fact that the vegetable and fruit sections of the Southeast have experienced little or no material setback from the business depression that has swept over the country. This speaks highly for the stabilizing ability of these crops upon the business of the sections growing them.

## Rapid Diversification of Farming Methods Throughout South.

**More Hogs in Georgia Alone Than in All New England States, New York, Pennsylvania, and Delaware, Combined.**

By J. C. WILLIAMS, Manager Development Service, Southern Railway System.

The most noteworthy feature of Southern agriculture is the tendency of farmers in the Cotton Belt to get away from the one crop system and to endeavor, by intensive cultural methods and the use of calcium arsenate, to maintain the production of cotton on a smaller acreage and to devote land released from cotton to food and feed crops. The results are that Southern farmers are today growing a much larger proportion of the foods and feeds consumed in the South and are producing larger quantities of fruits, truck, live stock, dairy products, poultry and eggs for shipment out of the South.

The most important fruit crop of the South in value is the citrus crop.

In 1922, the total shipments of citrus fruits from states served by Southern Railway System lines amounted to 30,916

Prospects are that the crop of 1923 will about equal the crop of 1920, and new orchards are coming into bearing annually in the apple producing states.

Carload shipments of other fruit and truck crops from states served by the Southern Railway System have increased as follows:

	1918	1922
Strawberries . . . . .	3,075	9,443
Watermelons . . . . .	13,281	31,900
Cantaloupes . . . . .	1,000	2,594
Cabbage . . . . .	10,060	13,245
Tomatoes . . . . .	5,733	14,552
Celery . . . . .	2,461	4,808
Lettuce . . . . .	2,953	4,593

Speaking roughly, it is safe to say that the Southern states are now distributing food products in the form of fruits, vegetables, melons, eggs and poultry more than 200,000 carloads annually—by freight and express—supplying their own



BEEF CATTLE ON THE HENRY M.

cars, as compared with 23,473 cars in 1918. Substantially all of the Southern citrus fruits are grown in Florida, but there is a promising development of Satsuma oranges in Alabama, the production in 1922 amounting to 401 cars and probably as much more by express, as compared with only six cars in 1918. Stated in boxes, the Florida crop of 1922 amounted to about 15,000,000 boxes, yielding the growers an average net profit over all costs, including depreciation and interest; of \$1.67 per box, or a total net profit for the citrus fruit growers of the state of more than \$25,000,000. Florida's contribution of perishable food-stuffs for the season ending with May, 1923, exceeded 73,000 carloads by freight, to say nothing of the very large movement by express.

Next in importance to citrus fruits are peaches, of which the South shipped in carload lots 9272 cars in 1922, as compared with 8266 cars in 1918. The 1922 peach crop in the South was adversely affected by weather conditions, which cut the Georgia production from 10,636 cars in 1921 to 7311 cars in 1922. Early prospects of the 1923 peach crop indicated a movement in excess of 12,000 cars, but unfavorable weather conditions has reduced this estimate to approximately 9000 cars.

Late spring frosts greatly reduced the production of apples in states served by the Southern Railway System in the years 1921 and 1922. The commercial production in 1920 amounted to 2,786,000 barrels, as compared with 2,419,000 barrels in 1918. The United States Agricultural Department reports carload movements only from Virginia, amounting to 8762 cars of the crop of 1920 and 4227 cars of the crop of 1918.

HOBBIE FARM, MONTGOMERY, ALA.

needs during shipping season and contributing a very large share of this traffic—probably more than 75 per cent of the production—to their neighbors in the East, North and Northwest. Through this industry the Southern producer has added substantially to his own profits and greatly improved the agricultural situation in the Southeastern states.

One of the most important features of the movement for the diversification of farming in the South is the rapid development, especially in the Cotton Belt, of what has come to be known as the "cow, hog and hen" program, involving milking of a few cows on each farm, the sale of cream to a creamery and the feeding of skimmed milk to hogs and poultry. The rapidity at which this is growing is shown by the increase in the production of creamery butter at points served by the Southern Railway System lines from 528,455 pounds in May, 1921, to 1,156,053 pounds in May, 1922, the last date for which complete figures are available. Hand in hand with this has gone a large increase in the production and marketing of hogs and of poultry and eggs. Stations from which only occasional crates of poultry were formerly shipped are now shipping carload lots.

The South is also producing a much larger proportion of its meat products than formerly. The number of cattle other than milk cows in the Southern states served by the Southern Railway System was 5,336,000 on January 1, 1923, and the number of hogs was 12,074,000. There were more hogs in the state of Georgia alone on January 1, 1923, than in all of the New England states, New York, Pennsylvania and Delaware combined.



AGRICULTURAL AGENTS OF THE DEVELOPMENT BUREAU OF THE ILLINOIS CENTRAL RAILROAD GIVING PRACTICAL DEMONSTRATIONS IN ASSORTING AND PACKING AT THE COMMUNITY PACKING SHED.



FIFTY CARS ON THE TRACKS AT CRYSTAL SPRINGS, MISS.—READY TO BE LOADED WITH VEGETABLES.

## Nashville's Live Stock Market of \$100,000,000 a Year Indicative of Tennessee Farm Prosperity.

**Corn Tonnage Originating on Nashville, Chattanooga & St. Louis Railway Twice as Great as Cotton—Even Chicken and Egg Tonnage Are Over a Fourth as Much as Cotton.**

By H. F. SMITH, Vice-President, The Nashville, Chattanooga &

Creameries, beef cattle, hogs, lambs, sweet potatoes, strawberries and poultry are bringing money to the farmers along the lines of The Nashville, Chattanooga & St. Louis Railway, as well as the staple crops of corn, small grains, cotton and tobacco.

The development of the newer crops, which has largely come about within the past decade, has been fostered and encouraged by the railroad management, as well as the Department of Agriculture, the State University and the county agents. Successful introduction of the new money-making

St. Louis Railway, Traffic Department, Agricultural Division.

The Tennessee spring lamb, always at the top of the early lamb market in Chicago, has moved into even stronger position in the last few years through co-operative marketing methods. A solid trainload of Tennessee lambs moving from the Nashville Chattanooga & St. Louis points to Northern markets is no very uncommon sight in the spring.

Improvement in live stock within the past fifteen years has been nothing less than phenomenal. Some fifteen years ago The Nashville, Chattanooga & St. Louis undertook the distribution of better breeding animals through its territory,



A TENNESSEE PEACH ORCHARD.

products has, in many instances, brought co-operative marketing organizations into being.

Take creameries, for instance. In 1910, with the assistance of the railroad management, the Franklin (Tenn.) Creamery Association was organized, the first co-operative creamery to be established on a permanent basis in the South. Beginning with a patronage of 400 cows, it ultimately served 5000. In the same Middle Tennessee territory successful co-operative creameries were established in Rutherford County in 1913, Wilson County, 1916, Bedford and Warren Counties, 1919, Maury County, 1920, two in Lincoln County in 1921, and one in Coffee County in 1923. Creameries in Marion and Rutherford Counties are now being organized. In 1921 the movement spread into Georgia where a creamery was organized at Dalton.

Within the last few months a cheese factory at Palmerville, Weakley County, Tennessee, has been opened. If the development of cheese making is anything like that of creameries it will take but a few years to have the territory dotted with factories.

in co-operation with the various national live stock associations, such as the Shorthorn, the Hereford, the Aberdeen-Angus breeders' associations, the various state sheep breeders associations, and the county live stock organizations. Pure bred, registered animals were secured and distributed through a system of co-operative auction sales.

To date, seven thousand such animals have been placed in the Nashville, Chattanooga & St. Louis territory through the railroad work alone, besides thousands coming from other sources. The effect is to be seen in an improvement of several hundred per cent in the quality of animals reaching Nashville market, a market, by the way, that is doing a business of nearly a hundred million dollars a year, largely on Southern stock.

The Middle Tennessee mule is another ever present help to the finances of the farmer. Columbia, Tenn., has the largest street mule market in the world. "First Mondays" there, and in the other mule producing counties, are great days for the buyers of mules to assemble from all sections to get high grade animals.

To the man who thinks of the South as a land that makes

nothing much but cotton, it might be interesting to know that the tonnage of chickens and eggs originating on the Nashville, Chattanooga & St. Louis in 1922 was more than one-fourth as great as the tonnage of cotton originating; that the tonnage of hogs was within 2000 tons of that of cotton; that the tonnage of cattle and calves was very considerably more than half that of cotton; and of horses and mules nearly one-fifth that of cotton. Corn originating along the Nashville, Chattanooga & St. Louis, measured in tons, was nearly twice the tonnage of cotton; oats tonnage was almost the same as corn; wheat tonnage was half that of cotton. Flour and meal ground and originating on the line was fifty per cent more in tonnage than cotton, while feed, bran, shorts and other mill products were more than twice as great in tonnage as cotton. The South is the "land of cotton," but it is the land of a great many other things as well.

For instance, there are potatoes. In 1922 the potato tonnage in Nashville, Chattanooga & St. Louis territory was more than 7000 tons, about one-sixth that of cotton. A very considerable part of this tonnage, more than 700 carloads, was made up of Tennessee Nancy Halls, a sweet potato that has become famous in the great markets. Prior to 1914 the

sweet potato was not produced commercially along the lines of the Nashville, Chattanooga & St. Louis. In that year, with the assistance of the company, the potato growers of Weakley County organized for the production and marketing of their crop. The growth of the sweet potato industry since that time has been a source of much revenue to the territory.

Fresh vegetables, exclusive of potatoes, shipped from the Nashville, Chattanooga & St. Louis territory in 1922 amounted to 817 tons. Fresh fruits, other than citrus, amounted to 3236 tons. These products moved not only to local markets but to the North.

The production of fresh fruits in Nashville, Chattanooga & St. Louis territory, however, is just beginning. Perhaps the principal fruit crop of Tennessee is the strawberry. Strawberry production along the Nashville, Chattanooga & St. Louis has begun only within the past year or so. There are already thirteen growers' associations in operation, the formation of which was assisted by the railroad. They shipped 58 carloads this season besides express shipments. Untoward weather conditions at the time of gathering the crop cut down the yield, however.

## Dressed Poultry and Eggs Add to Vegetable and Fruit Growing Prosperity.

**Continued Expansion of These Diversified Farming Interests Along the Southern Pacific in Texas.**

By W. R. SCOTT, President Southern Pacific Lines.

Each succeeding year witnesses an increasing development in the production of what may be best described as perishable crops in that great section of the country denominated the Southwest and which skirts the coast of the Gulf of Mexico from the Mexican line to the mouths of the Mississippi river and which extends into the interior of Texas and Louisiana a distance of possibly two hundred miles.

Within this territory, the greater part of which is devoted to the cultivation of the main crops—cotton, corn, and rice, there are several sections or areas particularly adapted to the growth of products that are of a perishable character and which must be produced intensively. These areas are determined by their soils and the reaction of certain products to climatic influences, but in southwest Texas and southern Louisiana, it is in the alluvial basins or beds of the silt-carrying rivers that most of the perishable crops are grown, while in east Texas, the rolling chocolate-red hills or iron stained soils seem to be best indicated for fruit, melons and the famed early tomato.

The Southern Pacific Lines of Texas and Louisiana traverse or cross all of these favored sections reaching the fertile valley of the Rio Grande at both Eagle Pass and El Paso and tapping at several points the remarkably rich and humus-carrying soils of the Brazos, Colorado, Navidad, Caney, Oyster Creek, Trinity, and Nueces Valleys in Texas, and the Calcasieu, Vermillion, Teche, Atchafalaya, Lafourche and Mississippi Valleys in Southern Louisiana.

The climate being practically uniform in all of these sections and the rainfall adequate, the production of the perishable crops is determined entirely upon the extent of cultivation by individuals or rather the extent of production is in proportion to the individual effort, as the areas now farmed are pitifully small compared to the territory available. This suggestion applies in every location in which perishable commodities are featured and the human element is the factor which determines.

Fruit and vegetable shipping points from West to East begin principally in the El Paso Valley, comprising stations Ysleta, Clint, Ft. Hancock, and Fabens where pears and cantaloupes, and vegetables, principally cabbage, are raised by

irrigation. Bartlett pear shipments predominate, the total movement averaging 75 cars annually. Further East at Marfa, apples are raised, but do not exceed eight to ten cars yearly.

Production jumps to Eagle Pass, where onion culture has been featured for several years. Shipments increased fifteen per cent this year over last, and in addition, six or eight cars of spinach were shipped, the first from Eagle Pass district. Two cars of onions from Pearson, also served by irrigation, this season, is the first between San Antonio and Del Rio on the main line. This section has done little in fruit or vegetables, although spinach growing is being considered.

San Antonio proper, for the first time, shipped fifteen or twenty cars of cabbage and white "Irish" potatoes this season, which represented a surplus grown in Bexar County. Further eastward the shipping points are more dense, and melons, potatoes, dressed poultry and eggs form a large part of the shipments. Melon shipping points are Seguin, Austin, Stockdale, Cuero, Columbus, Palacios, Port Arthur, Bay City, Beeville and Goliad. North and Northwest of Houston lies the larger melon producing points, Hempstead, Waller, Prairie View, Elgin, McDade, while in eastern Texas, Athens and other stations contribute numerous cars. In the same territory is a large white potato producing section, and Wharton leads in this commodity. Louisiana with sweet potatoes is making considerable headway and the Porto Rican and Yellow Yam variety of sweet potatoes are being shipped extensively, and to points as far as Vancouver, B. C. Shipping points are Leonville, DeRidder, Arnaudville, Eunice, Sunset. Potatoes are in many instances kiln dried and growers are to some extent, planting potatoes instead of al' rice as in previous years.

Vegetable raising on a limited scale is practiced at several points and in south Texas the Wharton section predominates, with spinach the leading crop. Other commodities include celery, cucumbers, carrots, beets, radishes, cauliflower and green corn. This section made a perceptible start in 1921, with 117 cars, and while weather has interfered in the total cars shipped for later seasons, the progress in a general way has been noticeable. Green corn, shipped for the first time

this season to any extent, totaled about twenty-five cars, which arrived at Northern markets in a good condition. Corn was also shipped from Louisiana points and the increase in both states compared with last year, was 93 per cent. A new shipping point this year was Terry, in the Orange-Beaumont territory. Ten cars of cabbage and lettuce were shipped and about 30 cars of tomatoes would have moved but for the March freeze. Other points include Sugarland and Houston.

The largest producing section for an individual commodity is the east Texas tomato territory comprising Jacksonville, Athens, Frankston, Rusk, Maydelle and other points. This is a yearly crop and the raising of tomatoes is an important



ROWS OF 12-YEAR OLD SCHLEY PECAN TREES AT ROBERTSDALE, ALA.

industry. The movement on the Southern Pacific averages 300 to 400 cars, but fell short this year due to unfavorable weather in March. Only 150 to 175 cars will be shipped. Farmers received better prices than last year.

Louisiana is making progress in vegetable raising. The stations of Houma, Lockport, Raceland and Morgan City increased shipments approximately 50 per cent this season as against last year. Various vegetables including potatoes,

form such shipments. Potatoes at Lockport are raised at inland points and brought up by canal boats. Vegetables from these points were shipped as far as Calgary this season.

Fruit shipments are limited to peaches from east Texas. During 1921 and prior to that year, the average movement was about 50 cars yearly. Strawberries from the Pasadena-Deepwater section between Houston and Galveston move by express. The acreage was about doubled last year, but production suffered from the freezing weather. Shipments averaged 50 cars annually.

The dressed poultry and egg business has an important place in the list of perishable freight, and the best egg and poultry district of south Texas where the bulk of such shipments originate, includes Gonzales, Seguin, Cuero, Beeville, Victoria, Goliad, Weimar, Rosenberg, Giddings, Austin, Llano, Brenham, Lampases, El Campo, Bryan, Caldwell, and a few other points. This business averages 250 cars annually. In addition, a large number of shipments move by express, especially during the Thanksgiving time and the Christmas holidays.

The annual production of perishable products as determined by shipments originating on these lines was in 1922, some 4000 carloads, of which thirty-eight were fruit, 983 vegetables, 2096 potatoes and 669 melons.

It is really remarkable, when the general availability and attractiveness of the several territories are considered, that the production does not double yearly. Soil is the richest on earth, climate delightful, growing season all the year, rainfall ample, and social opportunities as good as one could desire. Shipping facilities could not be better, yet farmers in other less favorable sections appear to be ignorant of our possibilities or too indolent to take advantage of them. Even as it is however, the territory traversed by these lines is rapidly becoming wealthy while the centers of social and business life are progressive, attractive, and rampant with the development of modern civilization.

Incidentally the present outlook seems to justify the belief that the 1923 crops will be record making.



7-YEAR OLD SATSUMA ORANGE TREE NEAR MOBILE, ALA.

# An Empire Greater than That of Rome Being Developed by Texas Railroads.

**Remarkable Progress in Diversified Farming—Poultry and Egg Shipments Over San Antonio & Aransas Pass Railway Equal in Value Cattle Shipments.**

By H. M. MADISON, General Freight and Industrial Agent San Antonio & Aransas Pass Railway Co.

Reference to some historic facts may make clearer present day efforts of railways to develop land. This may be especially true of Texas.

That part of the United States west of the Mississippi River is probably larger than either the "world" that Alexander the Great conquered, or the Roman Empire; it does not greatly differ in size from the outer limits of both the Alexandrian "world" and the Roman Empire. Yet the Alexandrian "world" and the Roman Empire included practically all the historic, civilized world until some time after the Christian era. It required more than four thousand years to develop the territory of the Alexandrian and Roman worlds and even then much of their remote territory was only peopled with barbarians, hunters and trappers.

An examination of ancient maps shows that agriculture and other development was on or near the shores of seas, gulfs, bays, inlets, lakes and navigable rivers.

In fact, this was practically true of the whole world prior to 1825. In other words, for six thousand years development hugged the shores of seas and their arms, and lakes, and the navigable streams that flowed into them. In the United States west of the Mississippi River this was true before 1850 and practically true until after the close of the Civil War.

Within the past seventy years there has been practically as much territory in the United States west of the Mississippi River put under development as in the four thousand years in the historic world before the Christian era.

In a preliminary way it is to be noted that development can be roughly divided into the following eras:

1. The long period of hunting, trapping and fishing.
2. The period of grazing or ranching.
3. The period of agriculture.
4. The period of manufacturing, mining and industry.

These eras or periods, especially in later years, overlapped. It is also true that in the outer boundaries of all countries the activities of earlier periods obtained, while in the more developed portions the activities of later periods were found.

The one fact that stands out prominently in the history of all development is that progress was only made on or nearby the shores of seas, bays, gulfs, inlets, lakes and navigable streams, prior to 1825. The onward march to continental interiors, not served by navigable streams or lakes, began after 1825. In the United States west of the Mississippi River this onward march did not start until after 1850 and in the 70 years that has followed there has been built in this territory one-half the railway mileage of the United States, and the population has increased to over 30 per cent of the country.

It is not only in the western part of the United States where railroads have opened the path of development, but wherever they have gone progress has begun, and it is probably true that railroads have opened up more lands to agriculture than all other forces since the beginning of the world.

It may, therefore, be of some interest to know the operations of railroads in reference to agricultural development. It is not intended to speak further of this historically, but to indicate their immediate attitude, and particularly point out what is being done in the general San Antonio territory and more particularly along the lines of the San Antonio and Aransas Pass Railway. This railroad, in common with all

railroads of the country, maintains an active agricultural and development department. Such departments are doing the same kind of work, in agricultural and general development, as the great engineers did in piloting the new lines into virgin country in the years gone by.

## The Taft Ranch.

Beginning about 125 miles south of San Antonio and lying in an irregular semi-circle around the curve of the gulf near Corpus Christi, is an area of level black land that has been said to be the largest single body of that kind in the United States and only equaled by two others in the world. In the center of this body is the Taft Ranch, chiefly owned by Charles P. Taft, brother of ex-President Taft. On this ranch is "La Quinta," the home of Joseph F. Green, the manager of the ranch, and where the executive offices of the government were maintained for about ten days during the Taft administration. On this ranch are vast cotton and feed crop fields, and a number of industrial plants, all served by natural gas. Among these plants are meat packing, electric light and ice plants, cotton gins, an oil refinery and a feed mill; a compress is being built and a poultry hatchery established and plans are being made for a creamery, a soap factory and a cotton mill. The idea underlying all of these industries is to establish plants that will handle the products of the ranch. Great herds of cattle and hogs are being grown. The entire ranch has been so successfully conducted that there has been but one crop failure in 23 years, and record crops on the ranch have been frequently made. Competent observers have stated that this is the greatest farm organization in the world. About 40,000 acres of this ranch has not been developed because of slightly defective titles. These have now been cured and this land is now being opened up to good farmers, with financial arrangements for development when needed.

## Citrus Fruits.

It is not generally remembered that San Antonio is 300 miles south of Los Angeles and that Texas extends more than 200 miles south of San Antonio. In the territory south of San Antonio are the beginnings of a citrus fruit development which gives promise of becoming large. The amount of land suitable for citrus fruits is not yet fully known, but is extensive. Elwood Trask, a native Californian and graduate of the State University at Berkeley, is now manager of a grapefruit and orange grove at Falfurrias and has given me a statement of the gross profits on one four acre tract of grapefruit. The trees are now thirteen years old and have shown an average annual return for the past four years of over \$1700 per acre. I. E. Cowart has been superintendent of the State Experiment Farm at Beeville for nine years, and for the eight previous years handled citrus fruit groves in California. He reports that Bee County climatic and soil conditions are among the best he has ever known.

## Poultry.

A little to the east of San Antonio lies Fayette County, which for years has been the banner poultry county of Texas, and just south of this is DeWitt County, where a few years ago the county fair was converted into a "Turkey Trot." The county seat is Cuero, and the "Cuero Turkey Trot" soon became nationally famous, and "Cuero Turkey" took the place on many hotel menus of just "turkey." It is a somewhat remarkable fact that in this famous cattle country that

poultry and egg shipments over the San Antonio and Aransas Pass Railway approximate the value of cattle shipped.

#### A Unique Feature.

One climatic feature of this section is unique. If anyone will take the trouble to get a weather bureau map he will find that where the 25 inch and 45 inch rainfall lines start from the Gulf of Mexico they are less than 200 miles apart, but in tracing these lines northward it will be found that the 25-inch line runs through middle Nebraska and passes out of the United States near the shores of Lake Superior, while the 45 inch line runs slightly northeast, then turns rapidly toward the east and passes out of the United States on the coast of Maine; so that the territory between San Antonio and Houston and between Waco and the Gulf has the same kind of rainfall that exists between Nebraska and Maine.

The soils and crops are equally diversified and it is possible somewhere in this section to maintain most kinds of agriculture.

In land development work a new policy is being put into effect. Under the old methods of simply "selling" land it was found that when the farmer made large cash payments and then when he attempted to develop the lands he became financially exhausted. Under the new policy lands are being offered without a large cash payment and on easy terms, with a provision for a Federal Land Bank or other low-rate amortized loan to cover the cost of the improvements. This new policy was virtually started in San Patricio County less than a year ago, and has resulted in the handling of over 10,000 acres of raw land, building nearly fifty new houses and putting several thousand acres into cultivation. This policy was organized by the Farm & Immigration Department of the San Antonio and Aransas Pass Railway and is used in connection with local land owners, bankers and real estate men. The success of the policy is making it popular and it is already beginning to extend into other counties.

#### Big Tomato Crops Assured in Northern Arkansas and Southern Missouri.

Galena, Mo., July 24.—Recent rains in Southern Missouri and Northern Arkansas have assured a bumper tomato crop in those two sections of the Ozarks and especially in Stone county, this state, and Boone county, in Arkansas, along the White River. Unless some calamity befalls the tomato plants the production this year will be the heaviest in years and there will be heavy shipments to the central markets and a sufficient supply to keep all tomato canning factories busy. It is estimated that more than fifty tomato canning factories will be in operation along the White River division of the Missouri and North Arkansas Railroad. In some sections the blight has injured the tomato plants but so far this section has escaped. Ten years ago only a few canning plants were in operation in this territory but since tomatoes have become one of the big staple crops they have increased in large numbers.

Arkansas has seen a large development of the industry and it has lapped over into Missouri along the border counties. Stone county produces and packs more tomatoes than any other county in Missouri. Boone county, in Arkansas, comes next, and Carroll and Marion are not far behind. Baxter county has only one plant, located at Mountain Home. In those sections where the crop is started it is never abandoned for the tomato crop begins to bring in revenue just when it is badly needed. The crop also can be looked after without interfering with any of the other crops. J. E. Swofford, who operates a canning plant at Bergman, says that last year one man and a mule produced 104 tons of tomatoes. The crops vary in size from 5 to 100 acres, and they net the growers from \$50 to \$100 an acre.

#### FRUIT AND TRUCKING INDUSTRIES IN GULF, COLORADO & SANTE FE TERRITORY.

##### Notable Development in Watermelon Growing—600 Cars Probable from One District This Year.

By J. D. TINSLEY, General Agricultural Agent, Gulf, Colorado and Sante Fe Railway Co.

The fruit and trucking industries have developed rather slowly in this territory in recent years in spite of our efforts to increase the acreage and volume. Our farmers prefer to stick to cotton and other staple crops and so long as the price of cotton remains around 25 cents per pound or above, there is little possibility of interesting them in truck crops to any large extent.

With the exception of a small area in the vicinity of Hitchcock, near Galveston, devoted almost entirely to trucking, truck crops in our territory are grown as a part of the general farming operations. When a profit is made on these crops it goes to swell the general farm income and such losses as occur are made up from the income from the other farm operations.

The only notable trucking development is watermelon growing at Peters and Bellville, where 3000 acres were planted this year and 600 cars or more will be shipped. This was started last year and has developed partly at the expense of other nearby shipping points especially Hempstead. With the exception of one firm which is growing melons exclusively, these melons are grown by general farmers.

Weatherford is another district where watermelons are grown extensively by general farmers. Shipments have not begun but they are estimated at 800 to 1000 cars for this season.

The Eagle Lake and Wharton districts plant 7000 to 8000 acres per year to early Irish potatoes and when the potatoes are harvested much of the land is planted to cotton.

Sweet potatoes are grown on practically all farms in East Texas and Western Louisiana and on many farms in other districts and the surplus sold varies with market conditions.

Cabbage, cucumbers, cantaloupes, tomatoes and other truck crops are grown to a limited extent in several scattered districts where they reach carlot quantities.

Strawberries or other small fruit were not shipped in carlots from any of our territory this year.

Peaches once covered a considerable acreage in our East Texas territory but the greater part of the orchards have disappeared and there is little tendency toward replacing them. There will be no carload shipments this year from this territory.

There will be 40 or 50 cars of peaches shipped from our Oklahoma territory this year. These orchards are part of regular farm projects and the acreage is decreasing as the trees die out.

The Government crop report for July first gives Texas an increase of 15 per cent in cotton acreage and a condition of 77 per cent. I think that the acreage and condition in the Gulf, Colorado and Sante Fe territory will come fully up to the state average. There has been some damage in local areas from grasshoppers, hail and wind but on the whole the crop looks good. While boll weevils are present throughout the territory, I have heard nothing to indicate an especially severe attack thus far nor prospects of one. Although the final yield will be determined by weather conditions and insect injury, the present prospects are very encouraging.

So far as I have been able to learn, our labor shortage is not acute at this time as there appears to be sufficient white, Mexican and negro labor to handle the cotton and other crops. Should the cotton and feed crops yield according to the present prospects, there may be a labor shortage this fall sufficient to prevent the growers from gathering the crops as rapidly as they desire.

## Fruit and Truck Growing Along the Florida East Coast Railway.

### Handling 20,000 Carloads Annually of Vegetables and Fruits for Northern and Western Markets.

By H. N. RODENBAUGH, General Manager, Florida East Coast Railway Co.

Of course any one who is familiar with the history of the Florida East Coast knows that its growth and development did not start until Henry M. Flagler became interested in the territory. Mr. Flagler's first interest and development was from a tourist viewpoint. The hotel business was growing and the wealthy people of the United States were coming to Florida for a few weeks in the winter, but there was very little business for the railroad during the rest of the year.

There had been a few groves planted along the larger streams, where the fruit could be shipped out by water.

Mr. Ingraham was able to interest a Mr. Peters in putting out 800 acres of tomatoes near Cutler. There were others that he got interested in the new work. These men were advanced money with which to carry on their tomato growing, at six per cent, and very often without any security other than a note. This at a time when the general rate of interest in the territory was twelve to fifteen per cent, and very little money to be borrowed at that. Mr. Ingraham was so sure that there was a great possibility in the growing of tomatoes that he loaned over one hundred thousand dollars to get the industry started.



40-ACRE PINEAPPLE FIELD IN LAKE WORTH, FLA., DRAINAGE DISTRICT. PLANTED JANUARY, 1923.

The rivers along which most of the fruit was grown in the East Coast territory were the Halifax and Indian, with some being grown along the Matanzas. Of course Mr. Flagler immediately began to make a bid for this freight business. However, as he was pushing on South as fast as he could get the line constructed, there were a great many miles of road in the territory which did not originate a single car of freight. Mr. Flagler and his associates, especially Mr. James E. Ingraham, who had complete charge of the Industrial and Land Department, began to appreciate that a railroad to succeed would have to have freight to haul, and that for as many months as were possible each year.

Mr. Ingraham early in the fall of 1894 got a Mr. Spaulding of Avoca, N. Y., who had been raising seed potatoes for the Bermudas, interested in the possibilities at Hastings. After going over the situation with the farmers Mr. Spaulding sold to them forty-six barrels of seed potatoes for January plantings. The next season he sold 250 barrels, the following season 750. By this time the potato industry was successfully established.

The vegetable production on the lower East Coast was started by the initiative ability of Mr. Ingraham, who is now Vice-President, in charge of the Industrial Department of the Florida East Coast Ry. Mr. Ingraham saw some tomatoes that were grown below Miami. They were of fine quality and produced well. He had been familiar with the tomato development in Florida. The first tomatoes grown in a commercial way were grown at Arredondo. From there the movement went to Manatee River section, then to Winter Haven, where Mr. Ingraham became associated with it.

Mr. Flagler furnished the money for Mr. Ingraham to get vegetables produced on his new line of road. In 1895-1896

At this time there were only a few hundred people in this whole territory from Stuart to Jewfish Creek, a distance of one hundred and forty-nine miles. In 1890, for this whole distance, in what was Dade County at that time, there were 861 people, according to the U. S. census. In 1900 a population of 4955. In 1920, when there were two new counties, Broward and Palm Beach, in the same territory there was a population of 66,542. The success of the vegetable growing accounts for the larger part of the farming population included in this number. Of course the fruit culture at present employs as many or more than vegetable growing.

While the citrus fruit industry has not grown as rapidly as that of the vegetable growing, still since 1894 and 1895, there has been a continued increase in the acreage on the whole lower East Coast. The industry has not been pushed by large developments as it has been in what is known as the Ridge Section of Florida, where there have been thousands of acres cleared, planted and cared for, for a period of years varying from four to six, by the developers, for the purchasers. These have as a rule been sold in small acreages, usually ten acres. However, there have been some large developments in the Ridge Section where one company or organization would plant and care for a thousand acres or more for its own account. That kind of development has not been undertaken in the East Coast territory. Most of the groves in the East Coast territory have been planted by the person that bought the raw land and cleared or had it cleared, the grove put out, and took care of it for himself. However, during the last two years, especially during the last twelve months there are some developments on the East Coast where lands are being put under something of the same plan as the Ridge Section. There has been a large de-

mand for this class of development for the last several years, but one thing that prevented it from being developed earlier was the lack of large bodies of the best quality of land available for grove purposes, that did not need some drainage, or else it was hammock land that was very expensive to clear and get planted. At the present there are several large drainage districts that have just been completed and others that will soon be and yet others being formed that will make available some of the best citrus fruit and vegetable land in the state of Florida.

One of these I would like to call particular attention to, is the Lake Worth Drainage District, which was passed on by Mr. Isham Randolph from a drainage engineer's standpoint, as well as Elliott-Harmon and the Morgan Engineering Company. This drainage work was constructed at a cost of more than three and a quarter million dollars. There are

	Season 1921-1922	Season 1922-1923
Cars	Cars	Cars
Florida Tomatoes .....	6624	5661
Nassau Tomatoes .....	68	164
Florida Fruits .....	5397	6274
Florida Vegetables .....	706	833
Cuba Fruit .....	190	356
Cuba Vegetables .....	47	90
Cuba Pineapples .....	2748	3650
Florida Pineapples .....	160	286
Potatoes (White) .....	3856	2867
Total .....	19797	20134

I would like to call particular attention to the Cuba movement of fruits and vegetables, as this shows the great possibilities of the Florida East Coast Oversea Extension as Mr. Flagler must have seen it, also, to the small movement of Florida pineapples in 1921-1922 and the increase in the next season. This crop seems to be on a very healthy increase. There is a large new acreage being put out for the coming



ASPARAGUS FIELD IN GEORGIA.

about one hundred and thirty thousand acres in the district. The plan of reclamation is different in this district from most, in that it calls for the holding of the water in lakes and the canals for irrigation purposes. The drainage and irrigating system are constructed and controlled together, by having locks in the canals.

The drainage of this large body of fine land provides a territory in which there are found lands well adapted to the growing of all truck crops grown in Florida, as well as citrus fruit, and most of the subtropical fruits grown on a commercial basis in the State. The location is such that fine markets are afforded near at hand during the tourist season, which is gradually getting longer each year on the East Coast. There are fine opportunities offered in this district for both dairying and poultry raising. A large part of this land is in the famous Indian River territory, and anyone familiar with the best quality of oranges and grapefruit, as well as Tangerines, know what that means. Still, with these conditions existing, as I have above mentioned, there are about 60,000 acres of citrus fruit trees in the East Coast territory. The greater part of this acreage is less than ten years of age. During the period from 1919 up to and including 1922 there was an increase of about ten thousand acres, with the prospects of there being a like increase in the next two years.

I have mentioned the small beginning of the different crops along the East Coast of Florida and how recent their development started. I will not mention the car movement for the early years but am only going to give it for the last two seasons, that of 1921-1922 and 1922-1923. This movement will not show the express movement, which is very large for the whole season, especially from certain sections, where there are a number of men that have a large list to whom they send out a number of different vegetables each day or every other day during the shipping season.

season, with a number of young fields to produce their first crop next season. At one time it was impossible to increase the acreage of the pineapples, as there were very few fields in Florida that were producing healthy slips for planting, but we were able to import from Cuba, by a great deal of trouble, considerable good healthy slips, and from the fields that were planted from these slips there are plenty of fine slips to continue the increase of the acreage. At present it is about impossible to get any slips from Cuba.

Of a total movement of 4918 cars of potatoes from the State in 1922 the Florida East Coast Ry. moved 3856 cars and of a total movement of 3196 cars in 1923 the Florida East Coast Ry. moved 2867. Of a total movement of 10,083 cars of tomatoes for the whole State in the season of 1922 there were moved from the East Coast territory over the Florida East Coast Ry. 6624 cars.

I spoke something of the drainage work that was being done along the Florida East Coast Ry., that would make available a great body of the very finest land for fruits and vegetables. However, I do not think I could in justice to the situation, let the opportunity pass without saying something of the great, vast Everglades of Florida, particularly as the greater part of this large body of something like four million acres of land is near or in the territory of the Florida East Coast Ry. When the new Extension of this line is completed this vast territory will be traversed by this new line. Part of the new grade has been thrown up and rail will soon be laid on it, as it is expected to be able to move a great volume of freight out of this territory on this new line the coming season. The first mentioned drainage projects were separate and distinct from the Everglades. The drainage work in the Everglades is being carried on by the State of Florida. A large part of this vast territory will soon be safe for farming. Of course there are a great many acres planted at present

August 2, 1923.

and have been for several years, but until the plan of reclamation has been completed by the State it will not be counted absolutely safe. Still there are large organizations that are planning to take care of their drainage independently of the district as a whole. Of course these are in a position to carry on their work at once. Principal among these are two big sugar mill companies, the Pennsylvania Sugar Company, located on the Miami Canal, who have a large mill erected and nearly two thousand acres planted to sugar cane on their property, which consists of over a hundred thousand acres. The Florida Sugar and Food Products Company, located on the Palm Beach Canal, near Lake Okeechobee, have their

mill completed, and milled considerable sugar from last year's crop of cane, shipping Plantation White Sugar. They now have near eight hundred acres planted to cane, and are increasing their acreage.

Just how great a potential agricultural territory this is no one can appreciate, unless he has had the privilege of going over the whole district more than once. With the drainage work being completed in the near future and the railway already building out into the territory for the freight that is most assuredly to come, you can see how the tonnage in the fruit and truck crops is going to increase on the Florida East Coast Railway lines in the very near future.

## From One Carload of Bermuda Onions in 1905 to 5500 Carloads Suggestive of the Resources of a Great Texas Region.

### A Wide Variety of Melons, Cantaloupes, Berries and Other Food Products With Abundant Labor Supply.

By T. A. HAMILTON, President International-Great Northern Railroad Company.

I have a letter asking that we have one of our representatives prepare and send to you about 1000 to 1500 words dealing with the growth of fruit and trucking business on the line of the International-Great Northern Railroad Company.

Mr. J. M. Ball, our General Agent, Traffic Department, has written an article on the subject referred to and I am quoting it as follows:

"The principal vegetable crop along our line and in southwest Texas is the Texas Bermuda onion. This industry has developed and increased from year to year, beginning about

of \$50 bushel baskets per car this season, and nets the grower from \$100 to \$200 per acre. This is the quickest crop grown in this section, being only about five or six weeks from time of planting to maturity and requires very little cultivation, and the same land can be and is used for another crop the same season.

"Cabbage is another important money crop of southwest Texas along our line and is grown to considerable extent and with great success, so far as the yield is concerned, but frequently at a loss on account of too great production. In



FIELD OF ONIONS.

1905 when one or two carloads were shipped, to the present normal movement of forty-five hundred to fifty-five hundred carloads of approximately 600 bushels per car, which nets the grower on an average about \$1.25 per bushel, f. o. b. point of origin and averages about 250 bushels per acre. This crop alone brings to the one hundred and fifty to two hundred farmers who grow onions, two million to three million dollars per annum. These onions are practically all grown along the line of the International-Great Northern and its immediate short line connections southwest of San Antonio.

"Another of our most recent and important crops is spinach, which is also common to the territory along our line southwest of San Antonio. This is entirely a new crop in this section and has developed within the past three years from nothing to approximately two thousand carloads of an average

other parts of the country, as this crop can be grown in widely scattered parts of the country other than this section, and very frequently the supply exceeds the demand. The crop grown in this section fluctuates from one thousand to six thousand and even more carloads.

"Bell peppers, parsley, beets, carrots and numerous other truck crops are raised in constantly increasing volumes in the Laredo and southwest Texas district along our line, and the variety and acreage is being greatly increased from year to year as the farmers and growers increase in numbers and experience.

"Southwest Texas raises the finest and earliest watermelons that are grown in the United States and in considerable volume, which is increasing from year to year, the crop totaling several thousand cars each season and usually net-

ting good returns. Cantaloupes are a new discovery, the first carload shipments being made this season, and the grower who has started the industry at Laredo has already forwarded some fifteen cars with such success as to yield that he proposes to increase his acreage some ten times over next season and there is no doubt that others seeing his success will benefit by his experience and follow in his footsteps.

"The soil, climate and abundance of water for irrigation

west of San Antonio and along the Mexican border where the bulk of our truck crops are grown. We secure more labor than is necessary from the Mexican population at a very moderate cost. The truck fruit, etc., in the other sections of the state is also handled without labor trouble, and as it comes on before our most important crop—cotton—it does not conflict in any way with the staple crops. We are also largely dependent on Mexican labor to pick our large cotton



APIARY OF J. M. CUTTS, SIX MILES FROM MONTGOMERY, ALA.

along the Rio Grande River and the abundance of cheap Mexican labor makes the growing of all truck crops a profitable proposition in the southwest Texas country; this also applies in practically the entire territory southwest of San Antonio along the International-Great Northern Railroad, water being secured from the Medina, Frio and Nueces Rivers, there being numerous irrigation dams, one especially, the Medina Valley Irrigation Company having installed a dam across the Medina River at a cost of some \$3,000,000, and some 75,000 acres that can be irrigated from their storage supply, which impounds forty to fifty billion gallons of water and is constantly being augmented by the river flow. Other sections in this territory along our line are irrigated from artesian wells, these wells furnishing an inexhaustible supply of water.

"Tomatoes, strawberries, blackberries, peaches, sweet potatoes, Irish potatoes, peanuts, etc. are shipped in volume from north and east Texas along our line, the normal tomato crop from Jacksonville section being 1800 to 2000 carloads, four basket crates, averaging about 900 crates per car and ranging in price to the grower from 50c to \$2.50 per crate, f. o. b. shipping point.

"The little town of Lindale, in Smith County, a few miles from Tyler, will ship about 100 carloads of cultivated fresh blackberries and 300 to 400 carloads of canned blackberries this season, which is about normal and is being increased from year to year. This crop nets handsome returns to the grower. Strawberries are also grown in considerable volume and forwarded in carloads, and small lots by express all over the country from the Tyler section and adjacent to Houston, we having the earliest and finest strawberries on the market and secure uniform good returns.

"Another item of food products we are starting this year is green corn, roasting ears, and before the season ends expect to forward possibly several hundred carloads to various Northern markets.

"A few words about labor conditions: We have a superabundance of labor in Texas, especially in the territory south-

crop. Texas growing under normal conditions three to four million bales of cotton crop per year, which is more than one-fourth of the cotton crop of the United States, and one-sixth of the cotton crop of the world. Satisfactory service is rendered by the Mexican labor in this and also in railroad maintenance of way and by common labor around the larger cities.

"Summing up the present truck, staple crops and labor conditions in general, and outlook as a whole, 'Are we down-hearted?' The answer is 'No.'

"We are constantly and consistently going ahead and discovering something new that can be grown just a little better



7-YEAR OLD JAPANESE PERSIMMON GROVE.  
ROBERTSDALE, ALA.

than in other sections of the country, increasing the volume of what we are growing, and with our abundance of cheap labor we want the world to realize and know we have an empire larger in area than the combined New England states, and most of the Middle states. It is richer than the fabled delta of the Nile, with area, soil, water and climate that will and does grow anything, and that with our population and experience increasing, we can and will, if the demand is there, supply other sections with every necessity and practically every luxury that is grown for human need and consumption, in fact—

"Everything good for the sons of men  
Is grown along the line of the I-GN."

## A THOUSAND TOBACCO BARNS AS MONUMENTS TO THE BOLL WEEVIL IN A GEORGIA COUNTY.

### How Pierce County Through Able Leadership Turned Boll Weevil Poverty Into Tobacco Prosperity.

Southern initiative and progressiveness have lifted up Pierce County, Georgia from the destruction visited upon it by the boll weevil plague to one of the most flourishing and prosperous districts in the whole South. What this county did and is continuing to do is a story well worth bringing to the attention of all intelligent and thinking men of the section.

For many decades Pierce was a cotton-only county, producing fruitful fields of high grade Sea Island, long staple cotton. Prices were good for the product and Blackshear, the county seat, became the headquarters of the Sea Island association for the Southwest and the largest inland Sea Island market in the United States. In the midst of such prosperity came the boll weevil, just as it made its strides across almost every section in the cotton-growing districts of the South. The bolls of the long staple are more easily punctured than those of the ordinary short staple cotton and as a result the weevil wrought an even greater havoc to the one industry of Pierce county than to many other sections. The crop of Sea Island which some years ago ran into the hundred thousand bales in this county dropped to a few thousand, the Sea Island cotton ginnery at Blackshear lay idle and the county faced a most serious situation.

There were in Pierce county two men, Messrs. B. D. and A. P. Brantley, who upon hearing of the good results obtained in Coffee county of the same state in substituting the growth of tobacco for cotton, employed experts to investigate the rumors, and upon finding them to be true determined to institute such a change in their own county. The Brantleys were financially interested in many different enterprises in the county, a fertilizer factory, long staple ginnery, mercantile establishments, provision stores, a bank and other kindred interests. Feeling a duty to the community in which they had prospered, and knowing that renewed activity in Pierce would mean greater business for them, the Brantleys secured the co-operation of a large number of farmers who agreed to follow the advice and instructions of demonstrators who knew how to direct the growing of tobacco. The Brantleys employed the demonstrators and the farmers agreed to bear a part of the expense proportioned to the amount of their receipts after the crops were made.

The first year of the new regime brought a profitable crop to every farmer who followed the instructions of the demonstrators. The fifth good crop has been made in Pierce county, the farmers each year learning more and more that tobacco raising is both a science and an art. The soil is found to be more peculiarly adapted to the growth of tobacco than to long staple cotton, and there is something in the pebbly soil and in some of the sandy loam that has been producing a peculiarly fresh and vigorous quality of fine bright leaf. Demonstrators are still at work in the county, inspecting fields and suggesting cultivation methods, and now they are moving from barn to barn giving their suggestions as to the proper temperature for the barns that the leaf may be cured just right to have the color and flavor and quality for the best prices.

Experience in cultivation of tobacco in the field and of curing it in the barns have made the yield considerably greater each year. The following are the figures of the past four years for Pierce county, the statistics for the first year not being available:

Year	Pounds	Receipts	Av. Price
1920 . . . . .	915,826	\$268,199.97	29.28
1921 . . . . .	1,291,170	186,780.10	14.47
1922 . . . . .	1,358,193	335,135.30	24.69

Officials of the tobacco warehouses and farmers all over the county assert that there is fully fifty per cent more acreage in tobacco this year than last. The very lowest estimate of the crop this year is two million pounds. This tobacco brings the top price of Georgia tobacco, prices ranging from five to seventy-five cents, the average being about twenty-five cents. The Pierce county crop, it is estimated, should bring at least three-quarters of a million dollars in 1923.

Warehousing facilities have been created in proportion to the greatly increased crops. Blackshear is ready for the crop's handling and marketing. The Brantley warehouse, a brick building modeled after the best type of warehouses, will have after completion of certain additions now being made a floor space of 30,000 feet. It will be operated by E. L. Morgan & Co., Burlington, N. C. A new warehouse is being completed by the Farmers Warehouse Company, which is not a strictly co-operative enterprise but which will be used more particularly by the stockholders of the company. This warehouse will have a floor space of nearly 20,000 feet.

While tobacco has formed the basis for the reconstruction of Pierce county agriculture, yet the county did not allow itself to fall into a condition similar to that of the old days. Today it stands out as a diversified agricultural section. Some short staple cotton, which has been but recently raised in this county, is bringing attractive prices. The corn crop is sufficient for all the district's needs and much is shipped out. For several years Blackshear has, it is claimed, shipped more sweet potatoes for curing purposes than any other Georgia town. The county itself boasts two curing houses, one at Blackshear and the other at Patterson.

Looking ahead with keen vision, the Pierce people realized their need of a good perennial as well as a profitable annual crop, and thus they added acres upon acres, and groves upon groves of pecan trees. Some of the farmers plant them only here and there in their yards for shade and adornment as well as for the nuts, some specialize in them exclusively. A record of 100 to 175 pounds of fine nuts to the tree is a good average yield.

This short story of what Pierce county, Georgia has done to save itself from oncoming poverty and to reconstruct, revive and redeem itself to prosperity should furnish an inspiration to every community of the South that they may be spurred on to reveal to the country the resources, advantages, possibilities and facilities of this great section.

The Savannah News from which these facts have been culled tells of the building of a thousand tobacco barns in Pierce county which stand as monuments to show the redemption of the farmers from boll weevil poverty, to tobacco and pecan growing prosperity.

### Growing Diversification in Eastern Carolina, a Region Where Cotton Is No Longer King.

Kinston, N. C., July 28—[Special.]—Experts accredit North Carolina with the widest range of agricultural possibilities in America. The farmers of the eastern section of the state are beginning to take advantage of the adaptability of their soils to crops not heretofore planted. More crops can be produced in the 49 counties claimed as the territory of the Eastern Carolina Chamber of Commerce, which has its headquarters here, than in any section of similar area in America, according to local authorities.

Eastern Carolina farmers have turned their attention to numerous "side lines" recently. Cotton and tobacco will continue to be the staple crops for years to come, but diversificationists have preached their doctrine until farmers have developed scores of possibilities previously regarded as "catch-penny" trivialities, into sources of profit. Better local markets have been established. Hundreds of dollars' worth of produce changes hands at every session of the municipal

"curb market" in this town of 11,000 population. The supply frequently does not meet the demand. Similar institutions are beginning to be operated in other towns.

The sectional chamber of commerce is waging a poultry campaign. Goals have been set for the counties. Lenoir, for instance, will have a million hens in three years if the goal is attained. The organization would make poultrying a principal industry. Markets are convenient. Commercial hatcheries are being established. Milk-fed broilers and fryers from a local establishment are being shipped to hotels upstate.

Berry sections increased their production this year. In one locality in the strawberry belt a few miles south of this place the 1923 crop is estimated to have more than doubled last year's. Berries were planted in new territory. A considerable crop was made in the northern part of Duplin county, where only the staples had been grown in previous years. The same district shipped Irish potatoes for the first time. A heavy acreage of spuds was planted in the tidewater section east of here, and a good yield was announced. Beaufort county makes potatoes a staple crop. Sweet potatoes, used for feed for hogs in past years, are becoming an important commercial crop. Storage houses designed by experts of the federal and state departments of agriculture, have been erected at numerous points. The Eastern Carolina product is of exceptional size and sweetness. The municipal chamber of commerce here last year made sweet potato culture its hobby.

In Craven county cotton planters are fighting the boll-weevil with peanuts, though the county is not in the peanut belt, which lies well to the northward. Sampson county this season has reported a bumper huckleberry yield. The famed "Sampson blues" grow there. Bee-keeping is on the increase. Successful apiaries have been established at tidewater points. Model small establishments are located in Lenoir and other counties outside the tidewater zone. The corn crop this summer will reach record proportions in some counties. In the tobacco belt farmers promise to produce enough of the grain to feed their stock for the first time. Wheat is grown in small quantities. The condition of the crop is better than at this time in 1922.

Dairying is increasing gradually, pure-bred animals being brought in from the outside. Fever tick eradication has helped the cattle breeders. Conditions, according to animal industry experts, are ideal. Winter shelter is not needed for beef cattle in some parts of Eastern Carolina. Fine herds are owned in Greene and other counties. Greene county has taken the lead in pork-raising. Large numbers of pedigreed swine are owned on farms near Snow Hill. The industry has been stimulated in every county by elimination of hog cholera, formerly prevalent in many localities. Packing houses are springing up here and there. Dairying locally has been given impetus by the ice cream business. Three plants are turning out between 6000 and 10,000 gallons weekly, and purchasing supplies from dairies in two or three counties.

Trucking is expected to become more important. In the vicinity of Wilmington and in Duplin and other counties large areas are planted annually to lettuce, beans and other crops. The soil throughout the tidewater country is adaptable to such crops. The tobacco belt encroached upon that district several years ago, with the result that New Bern and Washington became bright leaf markets selling millions of pounds annually. Agriculture is more diversified in the tidewater than in the fringe of counties lying between the tidewater and Piedmont districts, though a single plantation in the upper tobacco belt last summer produced 150 different products. In the vicinity of Belhaven, in Beaufort county, corn grows 12 feet tall. A few miles away Aurora is located, one of the most important potato centers in the South.

As an indication of the diversity that is possible in Eastern North Carolina, chamber of commerce men point to the fact that nearly every grain and vegetable known to America is produced in large or small quantities, most of the fruits and berries grown on the continent thrive here, and even tropical fruits have been grown out-of-doors along the "banks," the strip of beach lying between the sounds and ocean which fringes the eastern end of the state. Pineapples and bananas are reported to have been produced on the "banks." As commercial crops they are probably out of the question, however. At historic Ocracoke and elsewhere figs thrive. The fruit is of a fine quality, the trees growing wild in large numbers, and Ocracoke housewives can the fruit in considerable quantity. Winter tourists pay \$1.50 a quart for the preserved article. Good yields of sugar cane have been had at tidewater places.

#### Federal Reserve Banks Reported as Stirred by Western Political Conditions to More Liberal Treatment of Southern Cotton Growers.

New Orleans, La., July 28—[Special.]—Economic leaders of this section are following with interest the movement of the Federal Reserve Bank to aid agricultural enterprise. The recent election of Magnus Johnson as senator from Minnesota by the insurgent rural vote, is thought to have had some influence upon the instruction that the Federal Reserve Board sent to every district reserve bank, advising them to render what financial assistance they could in order to promote the orderly marketing of agricultural products.

Great progress is already reported with respect to Southern cotton. In the latter part of July, there was a meeting of representative business men and bankers with the officers of the Federal Reserve Bank, 11th district, at Dallas, Texas, when it was agreed that the Federal Reserve would advise every member bank of that district that if they co-operated with the farmers in the orderly marketing of cotton, the Federal Reserve Bank would accept for re-discount the farmers' notes secured by cotton, of reasonable maturity.

Andrew Querbes, president of the First National Bank of Shreveport, and president of the Louisiana Farm Bureau Cotton Co-Operative Association, in New Orleans recently, in discussing the above, says that it represents substantial progress in a difficult situation, for the purpose of the policy is to prevent the usual dumping of cotton in the first 90 days of the season, which heretofore has been the rule, as the farmers were compelled to meet their maturing notes arising from borrowed money to make the crop.

"Since 50 per cent or more of the cotton will be raised in the 11th district, this action will tend to stabilize the price of cotton," he said. "Its influence upon the situation, with indications of a 11,500,000 bale crop, should be very great."

The co-operative association, he added, is doing an important work to help the economic situation surrounding the marketing of cotton. It has 5000 members who have pledged 75,000 to 80,000 bales of cotton. This will be marketed in an orderly way, the farmers receiving advances on the cotton they turn over, sufficient to tide them over until the staple can be sold at an economic price.

#### \$1,500,000 Shrine Temple at Louisville.

Louisville, Ky.—Changes have been made in the plans of the building to be erected here by the Kosair Temple, by which a hotel of 155 rooms will be added, making the completed structure cost about \$1,500,000. The hotel section will occupy that portion of the building fronting on Broadway, from the third to the seventh floors inclusive. Bids for the construction of this portion will be opened August 15, the cost to be about \$850,000. Joseph & Joseph of Louisville are the architects.

## UNION MINERS WORKING FOR CONTROL OF WEST VIRGINIA COAL FIELDS.

### Non-Union Mines Saved the Nation.

Charleston, W. Va., July 24—[Special]—The outstanding development in the trial of William Blizzard, president of sub-district 2, charged with being an accessory to the murder of Logan county deputy sheriffs during the "armed march" of union miners against Logan county in 1921, was the inadvertent admission of C. F. Keeney, president of District 17, United Mine Workers, that one of the purposes of the march was to unionize or organize, if possible, the Logan county coal field. The prosecution looked upon that as a rather damaging admission and the defense attempted to rectify such an admission by indicating that it would recall Keeney to the stand to explain in detail just what he meant.

The armed march of 1921 in which anywhere from 6000 to 8000 union miners participated, was the second attempt of its kind and although the attempt has been made to show that the invasion of Logan was attempted because "women and children were being killed," as a matter of fact those conversant with the circumstances know that unionization of the Logan field was the primary purpose, because the very same propaganda was used in 1921 as had been used in 1919. On or about Labor Day of that year, an official of District 17 made a speech in the Coal River mining section in which he is alleged to have stated that women and children were being murdered in Logan county. Such propaganda was freely spread throughout the union fields and miners became inflamed. An attempt was made to invade Logan in September, 1919, and was stopped by a peremptory demand on the part of John J. Cornwell, then Governor of the state that the miners should not engage in open rebellion. Notice was served on Keeney at that time that if the army of union miners proceeded beyond Danville, in Boone county, federal troops would be sent in to bring them out. The army disbanded when Governor Cornwell issued his ultimatum, holding Keeney strictly responsible for whatever might happen.

The union has long been anxious to organize the Logan county field because it is the key to the other non-union fields of Southern West Virginia. An attempt had been made in Mingo county and had failed, though resulting in much bloodshed, and finally ending in the proclamation of martial law. Union leaders even went so far in their defiance of the state government as to announce that they would march to Mingo and release those held under martial law. They attempted to carry out that policy in marching on Logan and were met by defenders of Logan county only, 1500 strong, many of whom were miners employed in a non-union field.

As long as the coal companies in the Logan, Winding Gulf, New River, Kenova-Thacker, Pocahontas, Tug River and part of the Kanawha field are able to operate their mines on a non-union or open shop basis, the United Mine Workers will not be able to control production. The leaders of that organization realize that is the vulnerable spot in their armor and that so long as production can be depended upon in the fields mentioned in case of a strike, the miners' union cannot force a complete compliance with its demands. It was the non-union mines of Southern West Virginia which furnished the country with its coal during the strike of 1919 and last year the same thing happened again. But for the large production during the strike of 1919, the country would have been frozen into submission to the miners' demands. The miners who had been on strike in 1919 were thanked by the then President for going back to work in November of that year but there was no word of commendation for the miners who had made possible the large production in non-union territory.

It is the miners' organization which has taken the leading part in the organization just perfected of the Farmer-Labor party in West Virginia, but the principal figures in the

deliberations of that convention were those who have had an active part in the United Mine Workers Union which had a third party candidate in the field in 1920. Comparatively few farmers are affiliated with the new third party and most observers incline to the belief that the party just launched will be controlled by the same leaders which controlled the third party in 1920, when members of other union organizations declined in large numbers to affiliate with or vote for the third party's candidate for governor.

### Brass and Steel Discussed by Henry M. Leland.

Henry M. Leland of Detroit in discussing in a letter to the MANUFACTURERS RECORD a recent advertisement of copper interests writes:

"In regard to the proposed advertising by an association of brass and copper interests I think that the advertisement as written, read by an inexperienced person, would be quite misleading. And yet there is considerable truth in what they say regarding steel screws which are nickel-plated. The writer has always been very careful about the nickel-plating on steel wherever required. I regret to say that the practice in the average automobile plant is to put the nickel-plating directly on the steel and to use only a very thin coating of nickel. When the part is exposed to the weather the dampness soon forces its way through this thin coating of nickel, subjecting the part to rust and certainly making it look very bad. As you know, I have always manufactured high-grade cars, have done high-grade work of every description and have been able to disregard the slight expense necessary to nickel-plate steel so that it would remain in perfect condition almost indefinitely.

"The process is to first clean the steel so that it is chemically clean. This is absolutely essential. Then apply a heavy coat of copper. Next put on a heavy coat of nickel. Then you have a result that is almost permanent."

"Of course, the main reason why so many steel screws are used in automobile construction is the difference in cost of material: the brass screw rods cost about four times as much as the steel screw rods. However, there is a slight gain in favor of the brass because the labor cost is very much less on brass than on steel. Yet in the finished product, the difference in cost of the screws is something like three times as much as the cost of steel screws. The brass is not as strong as the steel; however, this is hardly a factor to be considered because the proper designer would proportion the size of the screw to the function it is to perform, regardless of the material of which it is made. There is, however, one objection to the brass in a screw with slotted head; that is that unless one uses a screw-driver which fits exactly, and handles it with care, the slot becomes bruised and distorted making an unsightly appearing screw head."

"It was always my practice to study each and every piece used in the car and to always use the material which would give the best results so that every part would function in the best possible manner. I did this regardless of the cost of material. Perhaps this would not be feasible in the manufacture of a cheaper class of car."

"There is one other objection to the brass which might be mentioned and that is that brass which becomes neglected is very unsightly. It calls for constant rubbing and polishing to keep it bright. Still further, brass when neglected and exposed to dampness forms a verdigris which is a deadly poison. Therefore, it should never be used in the production of parts which are likely to be neglected."

"In view of the foregoing, I feel that the writer of the advertisement has stated strongly all the points in favor of brass and has failed to give any of the points in favor of steel. Furthermore, he has carefully avoided stating any of the defects of brass."

**\$400,000 Robert E. Lee Hotel Completed at San Antonio—Nine-Story Structure Erected on Open Shop Basis.**

Erected at a cost of about \$400,000 for the Travis Street Improvement Co., the Robert E. Lee Hotel at San Antonio is now complete. The building, which is nine stories high and of fireproof concrete construction, contains 200 rooms and was erected on an open shop basis. It is equipped with a



ROBERT E. LEE HOTEL AT SAN ANTONIO.

low pressure steam heating plant and every room contains a bath. It will be served by two elevators, mail chutes and other facilities for the convenience of its guests.

Herbert S. Green is the architect and J. DePuy is the contractor, both of San Antonio. Percy Tyrrell, president of the operating company, announces rates from \$2.50 per day down. An accompanying illustration presents a view of the hotel as it appears completed.

**Cumberland River Power Development Discussed—Construction of Three Dams Possible.**

Nashville, Tenn.—At a recent conference here with Major H. C. Fiske, United States District engineer, plans for developing water power co-ordinately with navigation on the Cumberland River were discussed by local interests. Major Fiske pointed out that the construction of three dams would mean an increase of water flow down the stream and would enable the government to utilize part of the flow.

It is the intention of the engineer's office to investigate the advisability of building three instead of nine proposed locks and dams and to construct these in such a way that they will not only help navigation but will furnish water power. In order to do this, Major Fiske stated that work would have to be suspended on the present project until a decision had been reached by the central office at Washington, but the benefit in the end would mean much more than the single development of navigation.

**BIG MERGER OF PUBLIC UTILITIES.**

**Union Electric Light and Power Company to Absorb Twenty-Seven Companies in Missouri.**

St. Louis, Mo.—Qualified permission has been given by the Public Service Commission to the Union Electric Light & Power Co., of this city, to acquire by purchase and lease twenty-seven properties in North Missouri, subsidiaries to the Light & Development Co. and Western Power & Light Co., both of St. Louis, and the Missouri Public Utilities Co.

These properties include the Cupples Station Heat & Power Co., Cape Girardeau-Jackson Interurban Railway Co., Iron County Electric Light & Power Co., and the electric system operated by the Western Power & Light Co., in the vicinity of St. Louis, for which, it is stated, a total of \$1,920,918 will be paid.

Properties to be acquired by lease from the Missouri Public Utilities Co. are located at Cape Girardeau, Poplar Bluff, Bonne Terre, Chaffee, Charleston, Desloge, Dexter, Dudley, East Prairie, Fisk, Flat River, Carterville, Webb City, Elvins, Fornfelt, Illmo, Morley, Morehouse, Lilbourn, River Mines, Sikeston, Senath and St. Francois. The annual rental is reported to be \$240,000.

**Bessemer, Ala., Offers Exemption from Taxation to New Manufacturing Enterprises.**

With a desire to attract new industries, especially textile mills, for which there is said to be an abundant supply of labor, the City Council of Bessemer, Ala., has passed without a dissenting vote the following:

Be it ordained by the City Council of the City of Bessemer,

SECTION 1, That on and after the passage of this ordinance that all new industries whether firms, persons, corporations located within the city of Bessemer, who work or employ fifteen or more persons in the manufacture of any lawful products be and they are hereby exempt from paying any privilege license or taxes on real and personal property for a period of ten years from the date of the commencement of the manufacture and employment of the required number of men, as herein provided.

SECTION 2, This ordinance is passed for the purpose of encouraging the growth of the city of Bessemer from a manufacturing standpoint and the encouragement of citizens to locate in the City of Bessemer, and the good faith of the City is hereby pledged to those taking advantage of the provisions of this ordinance.

**Tanker Fleets Ply Through Canal and Pay Heavy Tolls.**

Late in 1922 a great new source of oil supply was developed in Southern California. Practically overnight tankers formerly in the Mexican and other services appeared in Los Angeles harbor and loaded oil for Atlantic Coast points. In the space of several months fleets of tank steamers were carrying California oil with clock-like regularity through the Panama Canal to the Eastern seaboard—a distance of 4920 miles, taking forty-three days for the round trip.

In the first three months of 1923 oil tankers, most of them carrying California oil, paid \$1,279,00 in Panama Canal tolls. During the month of April approximately two-thirds of the intercoastal tonnage passing through the Canal was in tank ships. A year ago in April only one American tanker in intercoastal trade used the Panama waterway.

This California oil, coming from a remote field at the southwest extreme of our country, is being made available to markets in the east—3000 miles away from the field—at the rate of 150,000 barrels a day, equivalent to the flow of 8 land trunk pipe lines pumping oil at capacity.

## Laying the Foundation for Industry.

BETTER FARMING METHODS FORM THE BASIS OF THE TURNER COUNTY PLAN AS DEVELOPED BY THE GEORGIA ASSOCIATION—LIVESTOCK AND MARKETING ORGANIZATIONS STRENGTHENED.

By J. H. REED, Atlanta.

What sort of a foundation does the industry of your state rest on? Is it a solid foundation—one that will last as long as the state for which it is built, or is it a foundation that is being undermined—that is crumbling year by year—that will eventually disappear, leaving skeleton cities and an impoverished population in its wake?

Wisconsin's early industry was based on its mighty pine forests—but they were cut away. California's early industry was her gold mines—but they became exhausted. Eventually both these states had to get back to agriculture—to dairying, horticulture and general farming, as the one sure foundation upon which they could build and build for the future.

So when the Georgia Association was formed, three years ago, for the upbuilding of the agriculture, the industries, and the general business of the state of Georgia, its leaders took to heart the lessons of the past.

Georgia's industries, they said, did not rest upon her mines. Mining was a great industry—but as a foundation of a state-wide structure it would never do. For, sooner or later, every mine gives out, and when the coal, or iron, or copper or lead gives out, there is nothing left to take its place.

Forestry was a great industry—but already most of the forest land in Georgia had been cut over. Like Wisconsin, her magnificent yellow pine forests had already been sadly depleted, and it would take many, many years of planting, work and waiting to rebuild them as a profitable industry.

Water power? Yes. Georgia had water power and to spare. But power was of no use unless there was work for it to do. To develop water power and then not have any industries to harness it to was too much like hitching the cart before the horse. It was apt to prove disappointing—not to say disastrous—to the industry of the state.

As for cotton—the boll weevil had already shown what it could do to that erstwhile favored crop. Cotton mills throughout the state had about all they could do to keep their spindles going. There was no chance of further development along that line.

So, leaders of the new movement said, the first step in the program must consist of laying the foundation, of weaning the farmers of the state away from cotton, of substituting crops in its place that would yield them a profit instead of a loss—that would make them independent instead of bound by chains of debt. Then these crops might be used to turn the wheels of industry.

With agriculture on a firm foundation and prospering, industry would also be firmly established. With farm crops increasing in value every year, industry would grow soundly, normally, and permanently.

Therefore the first thing the Georgia Association did was to introduce a plan for better farming in the state. Taking Turner County as a typical county, and with the advice and assistance of the state college of agriculture, it formulated the Turner County plan of farming.

The plan called for from three to six good milk cows, from two to three good brood sows, and from 20 to 40 standard-bred hens on every farm. Then, to provide food for the farmer and feed for his stock, it demanded that 12 acres be planted to permanent pasture, 10 acres in corn, velvet beans, and North Carolina peanuts, 5 acres in oats to be followed by peas or some hay crop, 5 acres in Spanish peanuts to be followed by tobacco, 5 acres in cotton, to be

followed by early grain, 4 acres in wheat followed by Spanish peanuts, and 3 acres in sweet potatoes and cane.

The cotton acreage was reduced to a minimum—the acreage of food and feed was increased sufficiently to support the farmer and his stock. It was a comprehensive plan—a plan readily adapted to the section—a plan providing for the most economical marketing of farm produce, namely, on foot, and for increasing rather than depleting the fertility of the soil.

The plan was laid before a joint meeting of the Turner County associations, and adopted by all. The board of trade, the farm bureau, the swine association, the dairy association, the boys and girls clubs—everybody got in behind it and gave it a boost.

As a result, out of some 1000 farmers in Turner County, 350 were induced to give the plan a trial. And now, after a year's work, it has demonstrated its value over and over again. Every farmer who has made the dairy cow, the hog and the hen, the working basis of his farm is prospering. He is running on a cash basis. He is putting money in the bank. And he is paying up on the back debts contracted during the old cotton-planting days.

None of the Turner County farmers who have given the plan a fair trial could be induced to go back to their old methods of farming. And there is a new note of optimism throughout the section.

As soon as the success of the plan was demonstrated, the Georgia Association called a meeting of its members in Atlanta and formulated plans to carry the message of Turner County to every county in the state. Speakers were secured from the state college of agriculture from Turner County itself—from the ranks of the bankers and the business men supporting the movement. A regular schedule was arranged and the details of the Turner County plan were presented at each county seat in turn.

Not only were branches of the Georgia Association formed in each county, but locals of the Georgia Swine Association, the Georgia Dairy Association, the Georgia Poultry Association, and the Georgia Marketing Association as needed. It was a splendid piece of cooperation between the Georgia Association and the organizations already in the field for the improvement of agriculture, and it proved, as nothing else could have done, that the new association was working for the farmers of the state and not for itself alone.

Of course, the inevitable cry went up from some short-sighted industrial firms. This organization isn't helping us, they said. We want larger plants—more workmen—more capital. What do we care about the cow, the hog, the hen, or the farmer, either?

But the Georgia Association went right on laying the foundation. It is still busy laying the foundation, and the better class of industrial and business men are seeing the light of the future and are getting in behind the movement.

"When the foundation is laid, then we can turn to industrial upbuilding," says Mr. Abbott, secretary of the association. "Until it is laid, our whole industrial structure is unsafe."

"Some of us can remember the 'creamery craze' that hit this state, in common with the entire South, some years ago. People everywhere were building creameries, buying

machinery for creameries, selling stock in creameries. They seemed to spring up everywhere, as if by magic.

"Then, one by one, they languished and died. Why? Because there were not enough dairy cows—there was not enough milk to support them. They injured a lot of people, ruined not a few, and gave the entire industry a black eye from which it has not yet completely recovered.

"The same thing will happen to any industry that is built up or brought into a state without the proper foundation having been laid for it.

"We can go on getting capital and building cotton mills for a while. Then what will happen? The boll weevil will cut down the supply, the mills will be compelled to run part time or not at all, employees will be thrown out of work, and that industry, like the creamery industry, will go on the black-list. It will not only hurt the industry, but it will hurt the state as well.

"There is another feature that I don't believe some captains of industry so-called have thought of. When there are too many mills in a section and not enough farms, it seriously hampers agricultural development. The boys go to the mills—they don't stay on the farms. The result is that the supply of farm labor is shorter than ever, the crop production is reduced, there is not enough raw material for the mills to run on—and the whole thing forms the worst sort of a vicious cycle.

"What the Georgia Association has in mind is the up-building of the state's agriculture. In its wake, and as the occasion demands it, we shall establish creameries, canning factories, meat packing plants and other industries more or less directly based on farming. This will give Georgia a new line of industries—a prosperous line of industries—and the old established firms in the state will thus be strengthened and made better able to take care of themselves."

As a matter of fact, the Georgia Association will employ an industrial secretary just as soon as the funds on hand are sufficient to secure the right sort of a man.

He will be acquainted with the industrial field, and he will be an expert on location and development projects. Whenever a member county wishes to secure a new industry, or enlarge one already on hand, he will be at its disposal. For a small retainer fee, he will go to the town in question, go over the ground carefully, and report as to whether he thinks the new industry will prove profitable or not.

If his report is favorable, he will assist the county to locate the necessary capital and equipment for the industry. If, however, his report is adverse, the business men of the county can save themselves time, trouble and money through following his expert advice.

Just as the Georgia Association already makes use of the agricultural experts of the state for its members, just as it is establishing test farms in all member counties as examples to farmers and new arrivals in those sections, so the new industrial expert will represent a definite and clear-cut service to the industries all over the state. It will prevent serious blunders—and it will aid deserving enterprises to the best of its ability.

Meanwhile, the Association is going ahead with the Turner County plan, getting farmers all over the state to introduce live stock on their farms, and strengthening the live stock and marketing organizations already on hand. It is laying the foundation—and when that is firmly set, it will be in a position to give an industrial service to the state not equalled anywhere in America.

It is the foundation that counts—and in the South agriculture is the foundation that must be laid firmly and surely before any other industry can be built up.

Growers of Chadbourn, N. C., received over \$500,000 for strawberries this season.

## SITE SELECTED FOR NORFOLK'S \$3,600,000 SUGAR REFINERY.

**Will Occupy 26 Acres at Sewalls Point—To Dredge Slip 700 by 100 Feet.**

Norfolk, Va.—The City Council has approved the sale of 26 acres of land at Sewalls Point to the recently organized Norfolk Sugar Refining Company, Inc. which plans the erection of a \$3,600,000 plant here. It is proposed to dredge a slip from the present grain elevator slip to the site so that adequate water transportation facilities will be provided. Rail facilities are ample. The proposed slip is to be 100 feet wide and about 700 feet long, and the dredging will be undertaken by the city.

On the opposite side of the slip from the refinery it is proposed to erect municipal wharves.

The huge plant will use approximately 500,000 gallons of water daily, which will be supplied largely by the City of Norfolk, and the recent improvements to the water works insure an adequate supply.

It is believed that the location of the plant in the city will develop not only a big trade in sugar, but that other commodities, cocoa, coffee and similar articles, will be distributed in quantities from new plants to be established in the wake of the sugar refinery.

A charter for the Norfolk Sugar Refinery Company was obtained several months ago from the Virginia State Corporation Commission, but negotiations and plans have progressed over a period of more than a year. It is said that at least \$5,000,000 will be expended in the project, most of the funds to be provided by New York interests. Eldridge H. Brooks, 82 Beaver street, of New York and J. B. Morgan, of Norfolk, are among those interested in the project. The Eastwick Engineering Co., of 185 Madison avenue, New York, as well as John Monks & Sons, 438 Broadway, of New York City, are mentioned as probable architects and contractors, respectively, for the work.

## Auto Bus Factory to Be Established at Nashville by Corporation Capitalized at \$10,000,000.

The M. B. Automotive Corporation, capitalized at \$10,000,000, has filed a charter at Nashville, Tenn. for the purpose of establishing a factory there for the manufacture of auto-buses and other products. In connection with this company and its plans, the Wilson Advertising Agency of Nashville wires the MANUFACTURERS RECORD:

"M. B. Automotive Corporation, Jacksonville, Tenn., incorporated for \$10,000,000 to manufacture front drive motor coaches, highway buses, trucks and allied products. M. Bollstrom, president, Detroit, Mich., Guy Hamilton, vice-president, Detroit; Martin Soule, secretary, Flint, Mich., and C. H. Farrell, treasurer, Nashville, all now of Jacksonville, Tenn. Corporation has secured ten modern factory buildings with approximately 100,000 square feet of floor space used by government in manufacturing metal and wood boxes during war. No construction necessary at present, except rehabilitation of buildings. Contracts now being made for machinery and equipment."

## Power and Light Company to Take Over Utilities in Mississippi.

Jackson, Miss.—Organization of the Mississippi Power & Light Co., with main office in this city, has been effected with the following officers: H. C. Couch, president; J. L. Longino, vice president; W. E. Baker, treasurer; L. Garrett, secretary. It is stated that the new company was organized for the purpose of taking over a number of utilities in Mississippi, including public service properties in Jackson, Vicksburg, Columbus and Greenville.

# The Steel Corporation Joins the Boll Weevil Campaign.

**TO SAVE THE WORLD'S MOST IMPORTANT SINGLE CROP, THE UNITED STATES STEEL CORPORATION WILL CONTRIBUTE \$25,000 A YEAR FOR THREE YEARS TO THE AMERICAN COTTON ASSOCIATION'S BOLL WEEVIL FIGHT.**

**President Wannamaker Wires the Manufacturers Record How the Campaign is Going.**

[Telegram to Manufacturers Record.]

St. Matthews, S. C., July 30.

In 1922 the cotton boll weevil completed his march over the cotton states from Texas to North Carolina covering ninety-seven and one-half per cent of the entire cotton producing section of America. This march was so slow, so stealthily made, that the nation could not visualize its devastating results, nor has the nation ever awakened to the ruin he has wrought or the curtailment of trade he has made and the debt paying power it has paralyzed. The nation and the world at large have suffered appallingly from this pest and it is conceded that a solution of this problem is a world necessity, as the cotton consuming world must look to America for approximately eighty-eight per cent of the good spinnable cotton of seven-eighths of an inch staple and above. The United States Census Department shows destruction to the American cotton crop from the boll weevil in 1921 of 6,277,000 bales and on the 1922 crop it shows even greater destruction.

In 1921 the total American production of cotton was 7,953,641 bales. In 1922 the total production was only 9,729,306 bales. In 1912 we exported 10,506,465 bales, so that if export had been normal in 1922 and we had been called upon to supply our 1912 quota we would have failed by 2,542,824 bales, and then there would not have been a bale left for American mills.

To state it in another way, if overseas trade had been normal in 1922 in its demands for cotton and had asked us for 10,506,465 bales, we could not have supplied them with more than 1,504,640 bales, leaving an unsupplied export demand of 9,011,825 bales, as in 1922 we consumed in this country 6,449,000 bales. Of course we had a surplus to splice us over the short crop of 1922 but that surplus is now gone. Foreign markets are not only working back to normal demands but it is conceded by the best students of the cotton industry that once the reparation question is adjusted and foreign markets opened that the demand for export will exceed pre-war records and that never was there a time when American cotton will be in greater demand and that it is only through American cotton that Europe can rehabilitate herself and pay her vast war debts including debts to America.

The boll weevil vastly increases the expense of production and also the hazard of production. Statistics show that over 300,000 farmers and farm laborers have migrated from the cotton farms to industrial centers during the last year for the purpose of securing more remunerative employment. This migration is continuing and will show increased proportions after the present cotton crop has been harvested.

With soil and climate that will produce any crop that can be grown in America, with a perfect network of water power, the South is awakening to its great agricultural and industrial opportunities.

The American Cotton Association and its Southwide membership is convinced that the raw cotton industry can be saved and they are working to that end.

Demonstration farms are being operated under practical farmers in 800 cotton producing counties of the South. These farms are being operated under the latest and most scientific methods of preparation, culture and management for produc-

ing cotton under boll weevil conditions. They are doing much towards restoring confidence. It is the consensus of judgment of those who have given careful thought and study to this problem that it will necessitate a complete change in the methods under which cotton has been produced heretofore. To continue to produce cotton profitably under boll weevil conditions these demonstration farms will be vastly increased in 1924 so as to cover every important section of each of the cotton growing counties of the South. It is the judgment of the officials of the Association and those who are co-operating with them that it will require five years of strenuous work to bring about this change in production of cotton.

The demonstration farms being conducted by the American Cotton Association and plans being carried out have been endorsed by various trade organizations and associations, business corporations and industrials in various sections of the country including merchants, bankers, chambers of commerce, and cotton manufacturers associations.

**Regardless of the fact that officials of the American Cotton Association serve without compensation** still it will require a heavy expenditure of finances to conduct these demonstration farms. Approximately \$150,000 will be spent for this purpose in 1923. It is the purpose to quadruple this work in 1924 and to show a steady increase each year to the end of five year period by which time it is felt the problem will have been solved by the plans and methods by that time being universally adopted by the cotton producers.

When San Francisco had its earthquake a citizen of St. Louis who had just landed, returning from a European trip, and visualizing the awful situation wrote his check for \$100,000, and handed it to the relief committee to be used in repairing the places laid waste.

When the flood waters bore down on Johnstown and wreck and ruin were left in its course the newspapers so graphically described the devastation that the people of the nation visualized the awful situation and with one accord hurried to the relief of the Johnstown flood sufferers.

In the interest of trying to save the cotton industry for the whole country and for the world the United States Steel Corporation through Judge Gary has just notified us of the appropriation of \$25,000 a year for a series of three years to our association to be used by us for the purpose of assisting in carrying on this work which is of such vital importance to every line of the cotton industry and the nation at large.

**Judge Gary believes the cotton industry vital to the progress and prosperity of the entire nation.**

Several hundred thousand dollars will be required annually for several years in order to overcome the weevil menace. Cotton merchants and members of the New York Cotton Exchange contributed \$100,000 to this work in February.

Cotton manufacturers and many large industrial corporations in all sections of the nation are contributing as they regard it as vitally important to preserve the most valuable staple crop in the United States, most essential to national and world prosperity.

J. S. WANNAMAKER, President,  
American Cotton Association.

**FORD ASSEMBLING PLANT AT NORFOLK.**

**Site Contains 44 Acres on Which Two Units Will Be Erected—Warehouse Planned Also.**

Negotiations have been closed for a site at Norfolk for the proposed assembling plant which will be erected there by the Ford Motor Co. of Detroit. R. T. Lipscomb of Norfolk, who handled the sale of the properties, wires the MANUFACTURERS RECORD:

"Assembling plant located at junction of Virginian Railway and Eastern branch Elizabeth River, with railway sidings to take care of 400 cars, both merchandise and export coal, on 30 feet of water and concrete boulevard, 15 minutes drive by truck to business center of Norfolk. Site contains 44 acres of high land with water, sewerage, gas and electric connections. There will be two assembling units in rotation, each 350 feet by 750 feet and five stories high of brick, with a warehouse 350 feet by 550 feet with slip for shipping 500 by 150 feet and 25 feet deep. Engineers here today expect to begin actual construction work in about 10 days. Will engage 300 men in construction work, and employ 1000 employees turning out 300 cars per day."

The plant will probably be in operation by January 1, 1924, and its possibilities for future expansion will be limited only by the growth of the automobile industry.

**Work on Oil Field Emulsions.**

In fields where water is produced with oil, water and oil emulsions are frequently formed. These emulsions are generally very stable in character, and unless broken down are of no value. In the years 1920 and 1921 about 70 million barrels of "cut" or emulsified oil were produced in the Gulf Coast fields, and about 35 million barrels of "cut oil" were produced in the Mid-Continent field. More than half of this cut oil was treated and broken down into "good" oil and water, resulting in a saving of approximately \$50,000,000 during that period. The remainder of the cut oil was either burned, left in earthen storage, or lost by drainage into streams.

D. B. Dow, chemical engineer of the Department of the Interior, attached to the petroleum experiment station of the Bureau of Mines, Bartlesville, Okla., is studying field methods used for the recovery of oil from these emulsions. Different methods of treating have individual advantages in different fields. The object of the Bureau of Mines experiments is to determine the most efficient and economical methods of treating cut oil produced in the various fields, and to obtain data regarding plant construction, operation and details of cost.

**Contract Let at St. Louis for \$2,500,000 York Rite Temple Building of Fourteen Stories.**

Contract has been awarded to the Westlake Construction Co., of St. Louis, to erect a \$2,500,000 building in that city for the York Rite Temple on Lindell Boulevard, west of the St. Louis Club. In connection with the enterprise, the Westlake Construction Co. wires the MANUFACTURERS RECORD:

"Architects Eames & Young, of St. Louis, and Albert Groves, of St. Louis, associate architects; building approximately 150 by 250 feet; equivalent to fourteen stories; structural steel frame, reinforced concrete slabs, Bedford stone facing."

It is expected that preliminary work on the building will start within two months, the construction company to supervise all contracts for material, supplies and equipment.

The Yazoo & Mississippi Valley Railroad plans an expenditure of about \$700,000 at Baton Rouge, La., of which \$350,000 will be for the erection of a new passenger station.

**Kansas City Considering New \$20,000,000 Water System—Accepts Report of Engineers.**

Kansas City, Mo.—A report recommending the expenditure of nearly \$20,000,000 for the construction of a new water system for this city, has been accepted by the Fire and Water Board with one reservation. The report suggests a site at Twenty-second street and Swift avenue in North Kansas City and it was with reference to the site that the board disapproved.

According to tentative plans the new water works will consist of an intake and an electrically driven low lift pumping station on the north bank of the Missouri River at the Kaw Bend; a grit chamber for removing the coarser suspended matter from the water; purification works comprising preliminary settling basins, reaction chambers, coagulating basins, rapid sand filters and a filtered water reservoir; electrically driven pumping station for delivering purified water through pressure tunnels to the high lift pumping station; low lift and secondary pumping stations, which together with all machinery at the purification works will be operated by electricity obtained from the most satisfactory source; main pressure tunnel; high lift steam driven pumping station, together with electric generating plant, if required, and an equalizing reservoir; necessary bank protection and river training works; system of discharge mains for delivering water from the new high lift pumping station to the distributing station.

The report was signed by Fuller & Maitland, supervising engineers; J. Waldo Smith, consultant, and three local engineers.

**\$3,000,000 Warehouse Company Secures Option on Site—Will Erect Structure.**

Birmingham, Ala.—An option has been secured on a site by the Break-in-Bulk Birmingham Bonded Warehouse Corporation capitalized at \$3,030,000, for the erection of the big warehouse which it plans for this city. The site under option is centrally located and offers, an available acreage of 12 to 20, which will be ample for the warehouse, which is to have about 2,000,000 square feet of space, and also for the necessary side tracks.

Officers of the warehouse company include Paul Chalifoux, president; T. O. Melton, vice president, and W. W. Clayton, treasurer. The Birmingham Trust & Savings Bank will act as trustee and Lowndes, Walthour & Co., with offices in the Steiner Building, are the fiscal agents.

**Two Baltimore Builders to Erect Groups of Dwellings for a Total Cost of \$525,000.**

Two dwelling operations in Baltimore which have been undertaken by the Frank Novak Realty Co. and the E. J. Gallagher Realty Co., will represent a cost of construction of \$525,000. The former company will expend \$310,000 to erect 94 dwellings on 31st street between the fifteen hundred and nineteen hundred blocks, and the latter will erect 92 dwellings on Emley and Lyndale avenues and West 28th street at a total cost of \$215,000.

Each company handles its own plans and construction.

**\$1,000,000 Improvements to Atlanta Terminal Station.**

Atlanta, Ga.—At a reported cost of \$1,000,000, it is announced that the Atlanta Terminal Co., R. B. Pegram, president, will remodel the terminal station here, plans for the improvements are now being prepared in Washington. Pending the preparation of these plans the terminal company is making temporary repairs in the train shed of the station.

## Work of Georgia Cotton Growers' Co-Operative Association.

Atlanta, Ga., July 25—[Special.]—In advance of final settlement, which will probably be made before the end of July, the Georgia Cotton Growers' Co-operative Association will distribute approximately \$1,000,000 to its members at once, it was announced today.

The distribution will be at the rate of 2 cents a pound, basic middling white  $\frac{1}{2}$  to 1-inch staple. This payment will bring the total advance up to 24 cents a pound paid to members of the organization this season.

Even before the final payment has been made, Georgia farmers participating in the system, after receiving the payment now being made, will have received from \$10.00 to \$15.00 a bale more than the average price received during the "dumping" season, and \$25.00 a bale more than the average price received when the crop began its market movement, say the officials of the organization.

According to President Conwell, of the Cotton Growers' Association, the organization has had a very successful year, and new members are now being signed up at the rate of from 300 to 400 a day.

All of which goes to show that the farmers of the South are willing to co-operate—if they are convinced that co-operation really pays.

## Contracts for Alamance County Courthouse and Home.

Graham, N. C.—Contracts have been awarded for the erection of the Alamance County courthouse here and the county home, general contract for the former having been awarded to the North Carolina Construction Co. of Charlotte at \$179,770. Plumbing and heating contracts for this building were let to the Kirkman Plumbing Co. of Burlington, N. C. and the electrical work to the Walker Electric Co. of Burlington.

The courthouse will be three stories and basement, 57 by 100 feet, of granite and terra cotta, with concrete, composition and tile floors and composition roof.

J. O. R. Davis of Burlington is the general contractor for the county home at \$30,463, other contractors being as follows:

Kirkman Plumbing Co., heating; W. G. Shivers, plumbing; and F. F. Spoon, electric wiring, all of Burlington.

This will be a one-story fireproof building of brick and will accommodate 40 inmates in addition to living quarters for the superintendent and his family. Harry Barton of Greensboro, N. C. is the architect for both structures.

## To Develop Vegetable Oil Handling Facilities at New Orleans.

New Orleans, La., July 27—[Special.]—New Orleans has the prospect of being the greatest vegetable oil center in the country, according to Scott Hammond, assistant engineer of the dock board, who has recently returned from a study of oil handling facilities in other ports, with a view to planning similar facilities here. It is estimated that the New Orleans dock board will build oil handling facilities worth about \$300,000.

Most of the vegetable oil trade is now done through the Pacific ports, with New York getting a large share.

New Orleans has the advantage of a ruling by the Interstate Commerce Commission advancing rates on vegetable oil from the Pacific to interior points by about 50 per cent. The waterway and rail communications between New Orleans and the interior give New Orleans the edge on New York as well.

The importance of developing this trade is seen in the fact that it will inevitably cause factories to establish here that use vegetable oil directly or indirectly.

## Municipal and Other Improvements at Southern Pines.

Southern Pines, N. C., July 27.  
*Editor Manufacturers Record:*

Sixty thousand dollars are to be expended in the erection of a new club house and the addition of nine holes of golf to the present well-established and well-known course. Two municipal tennis courts and two golf clocks or putting greens are being constructed in the down-town section and plans are being made for the erection of a privately owned and operated steam-heated swimming pool. A sports program, including tournaments in golf, tennis, putting, pool and horse-shoes is being arranged and cups or trophies of value will be awarded during the winter season.

Valuable crops of peaches, averaging approximately 44,800 crates per year are being shipped from this point. More than fifteen hundred cars of this fruit were distributed over twenty states, the District of Columbia and Canada during the season just passed. Strawberries, dewberries, melons and other products of the sandhills are in demand and the development of these crops to a higher degree is anticipated.

Southern Pines, located in the center of both the tourist and peach areas, is reaping a prominent share of popularity and profit. Recent civic improvements include \$300,000 in street paving; a beautiful new school building costing more than \$50,000, designed by Aymar Embury II, of New York City; more than 40 homes averaging \$10,000 each; a four acre park in the centre of the city and an eighteen acre suburban park; a new municipal building; several new business buildings and much in the way of general improvement. Approximately seven thousand dollars will be expended this year in the establishment of a modern ornamental street lighting system.

Being half the distance from New York of other recreational and health resorts for winter patrons, Southern Pines is rapidly gaining in popularity. Twenty-thousand people were turned away last season from Southern Pines and her neighbor resort, Pinehurst, for lack of accommodations.

Real estate developments in and about Southern Pines are of prime importance. Knollwood, Inc., a company of wealthy men, has established a village between Southern Pines and Pinehurst which has all the ear-marks of an exclusive settlement. Mid-Pines Club is one of the best institutions of its kind in the country and has a wide and well-known patronage. The settlement is within less than ten minutes of Southern Pines and will aggregate an investment of many millions of dollars. It consists of 1500 acres.

Weymouth Heights, established by the Boyd Brothers, consists of more than 1500 acres of virgin pine timber. It is a development of first rank and represents an exclusive patronage. Two years are given the purchaser to build upon his property and the building must pass certain limits placed by the sellers. The property was designed and laid out by Alfred Yoemans, a well-known landscape gardener.

J. V. MANN.

## Bids for 8-Story Office Building of Nashville, Chattanooga & St. Louis Railway.

Nashville, Tenn., July 28—[Special.]—Bids will be opened August 6 for the office building to be erected here for the Nashville, Chattanooga & St. Louis Railway, Hunter McDonald, chief engineer. The building will be 8 stories and basement, 50 by 90 feet, with provision for future expansion. It will have a reinforced concrete frame and will be faced with brick and terra cotta, the roof to be 4-ply built-up and laid on concrete slab.

The building will be equipped with a low pressure vacuum steam heating system, two high speed electric elevators, and terrazzo and maple floors. Plans have been prepared by the engineering department of the railroad.

## **Pushing Plans for \$12,000,000 Interstate Canal Project.**

New Orleans, La.—At a recent conference here of business leaders of Louisiana, Texas and Florida, the importance of building the interstate canal from New Orleans to Corpus Christi, Tex., was emphasized. It is proposed eventually to extend it from Pensacola, Fla., to the Rio Grande river. Congressmen Lazaro and Dupre, of Louisiana, who attended the conference, announced that they would urge the passage of a bill in Congress appropriating \$12,000,000 for the construction of the canal.

Roy Miller, of Corpus Christi, vice president of the Inter-coastal Canal Association, stated that the canal could be completed within five years on the basis of a 9-foot depth and 100-foot width if active cooperation of business interests in the territory affected can be obtained.

A bill was passed by Congress last year authorizing a survey of commercial possibilities and technical work. This survey has been started, according to Col. G. M. Hoffman, division engineer of the U. S. Army, and a report on technical phases, including the investigation of routes, cost of the work, cost of locks which may have to be built in New Orleans, together with a comprehensive statement as to the commercial possibilities of the project, may be ready by next December.

## **Fishing Lodge Plans \$300,000 Building.**

St. Petersburg, Fla.—Plans are being considered for the erection here of a \$300,000 building for the Pass-a-Grille Fishing Lodge which is being promoted by Walter A. Evans, president and treasurer, Philip H. Lucas, vice president, and William C. Freeman, secretary of the holding company which has taken over the Pass-a-Grille Hotel site.

W. J. Carpenter of St. Petersburg is the architect. The structure will have two facades and will front on both the Gulf of Mexico and Boca Ceiga Bay, having a length of 200 feet and a depth of 200 feet. It will be of the Spanish mission type and for the first unit it is planned to erect the wings two stories and the main structure three stories high.

## **Two Baltimore Department Stores Consolidate—Plan \$1,500,000 Structure.**

A merger has been effected by Bernheimer Bros. and The Leader, two large department stores of Baltimore, and plans are being considered for the erection of a new building to cost from \$1,250,000 to \$1,500,000 for the accommodation of the new enterprise.

The new store will be known as the Bernheimer-Leader Stores, with Herman Bernheimer, chairman of the board; Leon C. Coblenz, president; Isadore Wolf and Maurice U. Cahn, vice presidents. The company has a site on Howard street and Kimball alley, 156 by 166 feet on which it plans to erect a building of eight or ten stories.

## **\$1,500,000 Bonds Proposed for New Jefferson County Courthouse.**

Birmingham, Ala.—It is announced that Representative Mark Jeter, within the next two weeks, will introduce a bill in the legislature providing for the appointment of a commission with power to call an election for the approval of a \$1,500,000 bond issue to erect a new courthouse for Jefferson County. The bill will also provide, it is said, that the commission shall be composed of representatives of the Birmingham Bar Association, Birmingham Chamber of Commerce, Merchants' Association, Bessemer Chamber of Commerce, and the Trades' Council.

## **Tampa Considering \$2,000,000 Bond Issue—Number of Public Improvements Proposed.**

Tampa, Fla.—July 30—[Special.]—September 4 has been set aside by the City Commission of Tampa, for the consideration of a \$2,000,000 bond issue for a number of improvements. These include an auditorium, to seat from 4000 to 6000 and to cost \$500,000 to \$600,000; two or three reinforced concrete bridges across Hillsboro River; city market of reinforced concrete construction; sewerage and storm sewers to cost from \$300,000 to \$400,000; improvement of Little Island and the construction of a causeway, etc.; improvements are also planned for the port of Tampa and the city water supply.

## **Site Selected for Macon's \$600,000 Auditorium.**

Macon, Ga.—Announcement has been made by the Macon Auditorium Commission that the present site of the temporary auditorium at First and Cherry streets has been selected for the proposed \$600,000 auditorium to be erected here. Funds for the construction of the building, more than half of which is already in the hands of the commission, will be raised by a special tax levy covering a period of years.

Egerton Swartout, of New York, is the architect and Dennis & Dennis, of Macon, associate architects. The Gundvold Aus Co., of New York, has been retained as structural engineer.

## **Seattle Company Plans \$200,000 Propeller Plant in Norfolk—Will Manufacture Marine Devices.**

Norfolk, Va.—Plans for the establishment of a foundry here by the Shamrock Propellers Co. of Seattle, Wash., are being considered by that company, according to C. H. Boyles, general manager. Officials of the company, it is stated, have investigated sites along the Atlantic and Pacific coasts, and in Belgium, Holland and Mexico, but find Norfolk better suited to their plans for the operation of the proposed plant, which is intended to manufacture propellers and other marine appliances. The plant is estimated to cost \$200,000.

## **Site Purchased for Tuberculosis Sanatorium.**

Birmingham, Ala., July 28—[Special]—The mountain section beyond Rosedale known as Bald Ridge, between Salter Road and Shadys Creek, and embracing 110 acres, has been purchased as a site for the new Jefferson Tuberculosis Sanatorium, according to an announcement by R. A. Brown, of this city. Mr. Brown is chairman of a committee which recently conducted a successful campaign to raise \$200,000 for the project and it is expected that work will begin on construction of the buildings within 60 days. Ben Price, of Birmingham, has been engaged to prepare plans and specifications.

## **\$1,500,000 Pipe Line and Plant Development.**

Charles E. Sutton, of Amarillo, Tex., general manager of the Mountain State Pipe Line Co., who was reported in the MANUFACTURERS RECORD last week as to construct a pipe line from the gas fields north of Amarillo to that city, wires the following details:

"Twenty-eight miles, 16-inch into Amarillo; also gasoline absorption plant; total cost \$1,500,000; financed by Producers & Refiners Corporation, Chicago; total holdings, 280,000 acres; industrial gas six to ten cents, equaling coal at sixty cents to one dollar ton."

A committee of the Rotary Club, F. E. Pharr, chairman, is promoting the erection of an \$800,000 hotel at Texarkana, Ark.-Tex. Tentative plans provide for a building of fire-proof construction, brick, concrete and steel, to contain 200 rooms.

## NEWS AND VIEWS FROM OUR READERS

[Publication in this department of letters from our readers does not mean that we either approve or disapprove the views expressed. We believe in a full and frank discussion of the mighty questions of the hour, for only in this way can the truth be found. Therefore we often publish letters with which we do not agree.—Editor Manufacturers Record.]

### Religion in the Schools as Viewed by One Man.

FRED A. BINNEY, San Diego, Cal.

In California and Minnesota and other states there is considerable agitation concerning the need of teaching religion in our public schools and a minister in the California Assembly wants to amend the state constitution in favor of restoring the Bible in our schools. The latter proposal will meet with strenuous opposition and deservedly so.

It is perfectly true that the alarming spread of crime among mere boys and girls proves the crying need of giving them a moral training in our schools.

Since Christians are divided into a dozen sects no two of which can agree as to what constitutes the true religion of the Bible, I suggest that nothing but the four Gospels and the Ten Commandments (though the latter are repeated by Christ in Matthew 19, 18-19 and Matthew 22, 37) be read aloud in our schools without any doctrinal comment whatever—merely as history. Can any boy or girl be said to be educated who does not know the life and teachings of Jesus Christ, the greatest, most lovable character in history? It is surely a gross reflection on our school authorities that they insist on boys and girls knowing all about Washington and Lincoln, but about Jesus Christ never a word, and all because of the miserable squabbles and narrow-minded jealousies of sectarians.

Here are a few fundamental truths for educators to bear in mind:

You can make children under ten years believe anything. A silly mother told her three year old baby, "If you don't behave the Chinaman will carry you off." One day Johnny the "vegetable man," who loves children lifted the child up and placed her on the seat of his wagon. The child screamed and went into convulsions and it was many days before she got over the fright.

Another boy was recently found dead under his bed when some one tried his bedroom door. He had been told "the bogey man" would come for him if he didn't behave.

The moral of this is that our educators should teach young children that, "You are simply immortal souls living temporarily in this body which is your house, and your eyes are the windows through which you look out on the world and through all the other senses. You are here to learn your lesson in life and then when your body dies and is buried you will begin a new life in the spirit world, in a new (spirit) body and in the next life you will be happy or miserable according to how you have behaved yourself in this life."

"If you disobey the laws of God for the care of your physical body you will suffer pain and sickness here. Your duty in this life is to do unto others as you would like them to do unto you. Do your duty, be clean-minded, truthful, honest and kind to your fellows, not mean or selfish and then a rich reward awaits you in the next life. If you lead a mean, selfish, sensual life, lying, stealing and shirking honest work, wronging your fellow men, you will find a real hell awaiting you—alone with the memory of your evil deeds, in outer darkness, not a soul to care for you, until you repent. Solitary confinement is the most awful of all punishments, leading to insanity and suicide."

Many millions of Christians in the past have been kept straight through fear of hell fire and if the foregoing fundamental facts, which surely everyone who calls himself a Christian can agree to, were taught in our common schools there would be an enormous decrease of crime.

It is no answer whatever to say "This is the business of parents and Sunday schools." Half the parents are incompetent and there is no law compelling children to go to Sunday school. Therefore there is a larger percentage of boys and girls who grow up to be worldly-minded materialists. They get their morals at the moving pictures and I venture to think that a large proportion of young people believe as follows:

"The object of life is to make money and have a good time. Most rich men have made their money dishonestly, so there is no harm in robbing them when you get a chance. Look out for Number One; never mind the other fellow. If you don't get the better of him, he'll get the better of you. As to Heaven and Hell, that's all bunk. Enjoy yourself while you are young, never mind the future."

Any boy who imbibes such false ideas as these is very likely to be a criminal and if our educators blindly persist in keeping religion out of our schools theirs is the responsibility.

What concerns us is to know that we are immortal souls, only temporarily occupying these physical bodies and that we are destined to live on forever in spirit bodies.

Another huge mistake our university professors and Gospel ministers make is in utterly ignoring the scientific proof of the facts above stated, afforded by able scientists like Sir Oliver Lodge, Sir Conan Doyle, Sir William Crookes and others demonstrating the truth of spirit communication with those who have died. I have been a Spiritualist for 50 years and I am satisfied that a knowledge of its teachings will do more to reform society and promote man's happiness than any other agency.

### Interstate Commerce Commission Decision Should Be Reversed.

WILLIAM F. KIRK, Secretary and Manager, McLanahan-Stone Machine Co., Hollidaysburg, Pa.

Your article on the first page of your July 5 copy of the MANUFACTURERS RECORD is very interesting and we think you are taking the right stand in regard to the Virginian Railway on this branch line, and as you say, we cannot conceive by any stretch of power that any commission would have the right to prevent this line. We are glad to see that the Virginian Railway will carry this to a higher authority, and we believe that they should be reversed in their decision.

### \$500,000 Dam Proposed on Atascosa River in Texas—Will Irrigate 12,000 Acres.

Three Rivers, Tex.—Preliminary to the formation of the Live Oak County Irrigation District No. 1, tentative plans have been made for the construction of a \$500,000 dam on Atascosa River near Three Rivers which will irrigate more than 12,000 acres by gravity from the reservoir thus made. The Terrell Bartlett Engineers, of San Antonio, have been charged with drawing the plans which provide a concrete dam 600 feet long and 60 feet high, forming a lake of about 1000 acres.

It is stated that the county commissioners will probably call an election in August on the formation of the irrigation district and that work will likely begin soon after the bonds are authorized.

# THE IRON AND STEEL SITUATION

## Steel Production Steady—Prices Unchanged.

Pittsburgh, Pa., July 30—[Special.]—Steel production is running at about the same rate as in the past two or three weeks, at say 10 per cent below the rate in June, which in turn was about 10 per cent under the record high rate, late in April. The rate is more than 10 per cent above the average rate since the Armistice.

Prices of the principal finished steel products are unchanged, which means that they remain at the top points reached in the advancing market of the first four months of the year. Bars are 2.40c, shapes and plates 2.50c, plain wire 2.75c, wire nails \$3.00, merchant pipe, 62 per cent basing discount, blue annealed sheets 3.00c, black sheets 3.85c, galvanized sheets 5.00c and tin plates \$5.50.

In some quarters it is stated that a slight increase has been observed in new buying in the past week or two. In general the steel market remains quite dull as to new purchases, but this is typical of the season of the year, and also natural in connection with the fact that there was a prolonged buying movement, with advancing prices.

Distributors and manufacturing consumers continue to take deliveries very well on old orders and contracts. There are some suspensions and cancellations, but it is claimed that on the whole these do not amount to much. While there was a tendency for buyers to overbuy for the second quarter, there was more conservatism shown in making third quarter commitments. Any decline in the open market would cause buyers to balk at taking deliveries on such old orders as were above the reduced market, and this is one cogent reason why mills refrain from cutting prices. Some would like to book additional business, but it is more important to protect the orders already on books. There is also the factor that some deliveries are at prices considerably below those now ruling, so that they would not be touched by the first decline in the market. Very probably steel prices will eventually decline, but the point is unlikely to be reached before September 1.

While consumption of steel may have decreased slightly in some of the industries, the general position is that steel consumption continues at close to the highest rate. Any easiness in steel supply is to be attributed chiefly to production having been at above the consuming rate early in the year. The freight car shops are booked well into next year, the automobile industry has slowed down very little in production though it is very cautious about buying ahead, and the consumption of tubular goods in the oil fields continues heavy. Decreasing prices and increasing stocks of oil have not stopped drilling, which is largely of competitive character, producers feeling that their neighbors will get the oil if they do not. Increasing stocks have produced a continuous demand for oil storage tanks, furnishing much business for plate mills.

Connellsville coke has softened a trifle further as to furnace and foundry grades and has stiffened as to medium sulphur coke. Furnace is at \$4.50 to \$5.00, according to quantity and quality, against \$4.75 to \$5.00 a week ago, and foundry is \$5.25 to \$5.75, according to brand, a decline of 25 cents. Medium sulphur coke, not available for metallurgical uses, is \$4.00 to \$4.25, against \$3.50 or less a fortnight ago. Production is less and buying has been heavier, while considerable inquiry is coming from eastern dealers, on account of the possibility of an anthracite suspension September 1.

The scrap market has grown still more stagnant. Consumers are buying very little indeed, and at some works there are embargoes or hold-ups, preventing shipment on old orders, while dealers are not yet ready to buy to put in yard on speculation for a rise. Heavy melting steel is \$17 to \$17.50, or 50 cents decline in the week and \$10 decline in the whole movement of the past four months.

Pig iron continues surprisingly dull, consumers having bought very little since their second quarter contracts, which evidently covered more iron than they were able to use in the quarter. The minimum on foundry iron is down 50 cents, making the market \$25 to \$26, valley basis, \$26 being sometimes obtained on carload lots of particular brands. Bessemer remains at \$26.50, valley, as indicated by small lot sales at this figure, while basic remains at an asking price of \$25, valley.

## Continued Heavy Pig Iron Production in Birmingham District—Some Few Fourth Quarter Orders.

Birmingham, Ala., July 30—[Special.]—Pig iron production in Alabama continues strong and the melt in the home territory and the shipments away take up all but a few thousand tons the month. While the surplus stock of iron on yards has increased to more than 52,000 tons, estimated, there is but little pessimism manifested inasmuch as no little of the iron going to the yards is considered as sold, some of the consumers still asking delay on shipments on old contracts, this method being employed rather than cancelling the orders altogether. The market in this section still lags, the orders being few and far between and in small tonnages. However, there have been a few orders booked for fourth quarter delivery, showing that some of the consumers are already looking forward. A general change for the better is expected during the coming month. The orders in hand and the few coming in will warrant full operation of blast furnaces at least into September. Pressure pipe makers, who are among those industries still going at capacity pace, are expecting fall and winter orders to start in the next 30 to 60 days. The sanitary pipe and fittings makers also look to the coming month as a busy one with a large tonnage to be placed.

The quotations for pig iron in the Alabama field are still given at from \$25 to \$27 per ton, No. 2 foundry. The larger and more active furnace interests assert that \$27 is still being asked for. It is difficult to compete with northern furnaces in several territories because of cuts in prices which bring the iron down to below that for which when freight is added, Southern iron can be delivered. The new business from the St. Louis and Chicago territories, heretofore very lucrative sections, has been very light lately. Shipments of pig iron from Sheffield-Florence, this state, via Tennessee-Ohio rivers and thence by rail into the two territories mentioned will continue healthy for some time yet on old contracts, three furnaces producing steadily in this trade.

Export movements of iron and steel products of the Birmingham district are still noted at Mobile port. The Selma City, one of the steel ships built a couple of years since at Mobile by the Chickasaw Shipbuilding Company, sailed a few days ago on one of its regular trips bound for Japan, carrying between 7000 and 8000 tons of steel products from this district and a quantity of sulphate of ammonia, the latter to be used for fertilizing purposes. In the cargo was 3016 tons of steel rails produced at Ensley. Japan is understood to be considering a very large amount of rail from America for the balance of this year and into next year. The United States Steel Products Company, the export subsidiary of the United States Steel Corporation, is working on this business and the expectations here are that as soon as the business is booked the Tennessee Company will receive the assignment of supplying the product, the Alabama made steel having proved most acceptable. The ships plying between Mobile and the Pacific coast are also handling considerable of the products of the Birmingham district, east iron pipe in particular. Much of this product is being purchased. Los Angeles last

week placed an order for 2400 tons of pipe with Birmingham manufacturers and specifications are under consideration for something like 8000 to 10,000 tons more. The far west business has been good and manufacturers anticipate much trade in that direction.

The sanitary pipe interests show the greater amount of deflection in this district, two plants being shut down during the earlier part of the month and another one this week. However, as stated, the expectations are there will be a general change for the better in the business conditions in this line.

The scrap iron and steel market continues lifeless though there is steady shipment of the product on old contracts, these dealers having had very few cancellations. All old material prices are just nominal listing, very few sales being made at the prices.

The Tennessee Coal, Iron & Railroad Company is placing into service as quickly as received, barges being built at Mobile out of steel produced at Ensley and fabricated at North Birmingham, the first one leaving Birmingport the past week with 1500 tons of steel rail, for export through that port. The second barge was received the latter part of the week and is to carry down steel this week. There will be nine barges in all of this class, the Tennessee Company to allow the barges to be used in the federal service but for the products of the steel mills here. The barge service is hauling much freight down stream, cast iron pipe, steel in various shapes and coal.

Coal production in Alabama has promise of improvement during the coming month. The steam coal demand has been lagging but the prospects are bright for starting on plans of laying up coal for winter use during the next two or three weeks, which will mean that several mining propositions will have put on a little more speed. The production has been more than 260,000 tons per week lately.

The coke market shows no improvement and quotations are down around \$8 per ton, foundry coke, with \$8.50 being mentioned also. New business is light. Old contracts call for a large amount of coke and will for some time yet.

Quotations for pig iron and iron and steel scrap follow:

#### PIG IRON.

No. 2 foundry, 1.75 to 2.25 per cent silicon, f. o. b. furnaces, \$25.00 to \$27.00; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$25.50 to \$27.50; iron of 2.75 to 3.25 per cent silicon, \$26.00 to \$28.00; iron of 3.25 per cent silicon, \$26.50 to \$28.50; iron of 3.75 to 4.25 per cent silicon, \$27.00 to \$29.00; charcoal iron, f. o. b. furnaces, \$34.00.

#### OLD MATERIAL.

Old steel axles .....	\$20.00	to	\$21.00
Old iron axles .....	24.00	to	25.00
Old steel rails .....	17.00	to	18.00
Heavy melting steel .....	15.00	to	16.00
No. 1 R. R. wrought .....	15.00	to	16.00
No. 1 cast .....	20.00	to	20.50
Stove plate .....	16.50	to	17.50
Old carwheels .....	18.50	to	19.00
Old tramcar wheels .....	19.00	to	20.00
Machine shop turnings .....	8.00	to	10.00
Cast iron borings .....	10.00	to	11.00
Cast iron borings (Chem.) .....	16.50	to	17.00

#### Short Line Connection to Be Built.

The Kansas City & Grandview Railway Co. is an enterprise in which it appears that the Kansas City Southern Railroad Co. is interested, as the first named organization proposes to build a line from Leeds to Grandview, Mo., 13 miles, which is to be used by the latter company to operate trains between Kansas City, Mo., and Pittsburg, Kan., the Kansas City Southern now using the tracks of the Frisco System between those points. Permission has been asked of the Interstate Commerce Commission by the Kansas City & Grandview Railway Co. to build the line and to issue stock.

Tonnage of the port of Houston, Texas, for 1922 amounted to 3,365,635, with a value of \$144,272,900. This compares with a tonnage of 1,287,972 with a value of \$85,034,834, for 1919.

## RAILROADS

### CAR DISTRIBUTION ORDER HELD UP.

**Effective Date Set Ahead to October 1 Because of Many Protests and Requests for Rehearing.**

An order was issued by the Interstate Commerce Commission on June 26 directing the railroads to stop on or before September 1 their practice of distributing to bituminous coal mines any private cars or cars to be loaded with railroad fuel in excess of the pro rata distribution of cars for coal loading currently made to any other bituminous coal mines which do not receive private cars or cars to be laden with railroad fuel and which are on the same division or district established by a railroad for distribution of cars.

But now, according to information from Washington, the Commission has advanced the effective date of its order in the premises from September 1 to October 1 as a result of protests that have been received from railroads, steel plants, and other industries asking for a reconsideration and hearing of the matter and there have been some demands that the effective date of the order be postponed at least until next spring.

The practice of distributing cars which the order is designed to change is based upon the theory that the railroads must be assured of a constant and regular supply of good fuel not only on their own account, but upon the account of the big industries of the country which are dependent upon them for adequate transportation facilities.

#### To Extend Line and Convert to Standard Gauge.

J. A. Pretlow, president and general manager of the Wellington & Powellsburg Railroad Co., which operates a narrow gauge line 24 miles long in Hertford and Bertie counties North Carolina, writes the MANUFACTURERS RECORD as follows:

"We are trying to put through a plan to make the Wellington & Powellsburg Railroad a standard gauge track and also to extend the road which now operates between Ahoskie and Windsor, N. C. We are trying to extend it from Windsor to the Roanoke River, 7 miles, and also to extend it from Ahoskie through Union and Murfreesboro to Pendleton, N. C., 19 miles. Pendleton is on the Seaboard Air Line Railway. We hope to make the road standard gauge with 60 or 67 pound rails."

The road connects at Ahoskie with the Atlantic Coast Line.

The officers of the company besides Mr. Pretlow are A. T. Baker, vice-president and treasurer; John H. Small, general counsel; H. B. Spear, chief engineer.

#### Railroad Notes.

The Gulf Coast Lines, and the Santa Fe System are both reported contemplating the purchase of freight cars and the latter is already noted in the market for 200 flat cars.

The Louisville & Nashville Railroad Co., which is building 16 miles of second track from Baileys to Wallsend, Ky., is reported as contemplating an extension of second track for about 40 miles from the latter point. The Nichols Contracting Co., of Atlanta, Ga., has the grading and masonry contract for the work between Baileys and Wallsend.

The Baltimore & Ohio Railroad has let a contract to the Pittsburgh Construction Co. for three deck plate girder span bridges from 50 to 75 feet long on its Valley Division in Virginia to replace old iron bridges of the truss span type.

The Southern Lumber Co. of Warren, Ark., is to build an extension of the Warren & Ouachita Valley Railroad, which it controls, in order to push its operations. The company has ordered 22 track miles of 75 relaying rails from the National Steel Rail Co., of St. Louis.

### First Aid Instruction Throughout the Country.

The American Red Cross First Aid Service Car has started out over the lines of the Baltimore & Ohio Railroad System, on which it will spend five months going from point to point and it is expected that hundreds of thousands of railroad men, industrial workers, Boy Scouts and others will be instructed and prepared to give efficient aid to any injured persons at any time. The trip began July 21 at Philadelphia and it is planned to cover the entire country, the different railroad companies over whose lines the car will go co-operating by moving it from point to point as needed. The car is of standard Pullman type and it contains a lecture room with seats for 50 persons. In case of necessity it can be made into a hospital for 30 patients. A surplus supply of food, blankets, stretchers and first aid materials is carried for use if required. On leaving the Baltimore & Ohio System the car will cover the Illinois Central Railroad Company's lines. Thence it will proceed to other systems. Major M. J. Shields, First Aid Field Representative of the Red Cross, has charge of the car, and he is assisted by Dr. W. A. Redal and others. Meetings will be held at railroad shops and other places and when possible the audiences will be taken into the car. There will also be meetings and instructions for the general public. It is stated that Red Cross officers have found that thousands of minor accidents result in death or permanent injury because efficient first aid was lacking, hence this effort to spread information.

### Baltimore & Ohio Earnings Increasing.

The Baltimore & Ohio Railroad Company's statement of earnings and expenses for June, 1923 with comparisons with June, 1922 shows railway operating revenues, \$22,515,545; increase, \$4,935,030; railway operating expenses, \$17,278,011; increase, \$3,501,104; net revenue from railway operations, \$5,237,534; increase, \$1,433,926; net railway operating income, after taxes, uncollectible revenues, rentals, etc., \$4,004,590; increase, \$1,338,258.

The company's statement for the first six months of 1923 with comparisons with the same period of last year shows railway operating revenues, \$129,797,389; increase, \$31,118,230; railway operating expenses, \$99,513,427; increase, \$21,814,503; net revenue from railway operations, \$30,283,962; increase, \$9,303,727; net railway operating income, \$22,825,908; increase, \$8,245,613.

### High Points in Railroad Freight Traffic.

Including the week of July 14 the million car loading mark has been exceeded in six out of eight consecutive weeks so far this year, according to a statement issued by the car service division of the American Railway Association, which also says that the average loadings per week for these six weeks were 1,013,118 cars. In the week ended July 14 the loadings totaled 1,019,667 cars and while this was somewhat less than the record of June 30, it was also greater than the previous old record of 1920 which has now been broken for the second time within three weeks. Freight loadings increased in the western district nearly 12½ per cent and in the Southern district 9½ per cent. Nearly 26,000,000 cars have been loaded with revenue freight since January 1. The increase being over 4,300,000 as compared with the same period of last year.

J. T. McGregor, vice president and general manager of the Lowe Manufacturing Co., operating a large cotton mill at Huntsville, Ala., has sold out his interests, but will remain with the company for the present in the capacity of vice president. Robert McDonnell will succeed Mr. McGregor as general manager of the Lowe company.

## TEXTILE

### Contract Let for 128 Operatives' Dwellings.

Hogansville, Ga.—Lockwood, Greene & Co. of Boston and Atlanta, engineers for the erection of the new Stark Mills here for the International Cotton Mills of Boston, have awarded contract to the La Grange Lumber & Supply Co. of La Grange, Ga. to erect 128 operatives' dwellings and a superintendent's house. This will provide an extension to the present village and housing facilities for the new mills, on which rapid construction progress is being made.

The mill will have 260,000 square feet of manufacturing floor space, exclusive of store house and boiler plant. It will produce tire fabrics and also some of the goods manufactured by the Stark Mills at Manchester, N. H., which include twills, crashes and sateens. A. J. Krebs Co. of Atlanta has the contract for the concrete skeleton frame of the building.

### To Build Addition and Install \$150,000 Worth of Machinery.

Norwood, N. C., July 28—[Special]—Contract has been awarded to the Pickler-Lampley Construction Co., Pinebluff, N. C., to erect two buildings here as additions to the cotton mill of the Norwood Manufacturing Co., in which \$150,000 worth of machinery will be installed. One structure will be 88 by 78 feet, two stories, and the other 50 by 75 feet, one story and basement.

The installation will consist of carding, combing, twisting and spinning equipment, contracts for which have also been placed. Officers of the Norwood Manufacturing Co. are D. B. Coltrane, president and treasurer; L. D. Coltrane, vice president, both of Concord, N. C., and J. F. Shinn, Norwood, secretary and manager.

### California Interests Acquire Alabama Textile Plants and Will Operate.

Selma, Ala.—Papers incorporating the California Consolidated Cotton Co., with an authorized capital stock of \$750,000, have been filed in the office of judge of probate of Dallas County. The company will take over all textile plants in Alabama of J. R. Millar, including two at Selma and the Ella White Cotton Mills of Uniontown, Ala. Selma will be the principal point of operation.

Incorporators of the new company, besides Mr. Millar, include a number of other California capitalists, in addition to W. B. Craig, of Selma. The officers are M. R. Higgins, president; Joseph F. Carlton, vice president; L. H. Heacock, secretary-treasurer, and B. E. Cotton, assistant secretary.

### Morven Cotton Mills to Enlarge.

Durham, N. C.—Plans for the enlargement of their plant are being considered by the Morven Cotton Mills of this city. The proposed betterments include an extension to the building, the installation of additional machinery and the employment of about 100 more operatives.

It is stated that the mills are doing a capacity business, with orders already on hand to keep the plant in operation for five months. New orders coming in daily necessitate the enlargement.

Ryan & Bowers of Hinton, W. Va. are reported promoting the erection of a silk mill at Hinton, for which \$35,000 has been subscribed. These figures were erroneously printed last week as \$35,000,000.

## GOOD ROADS AND STREETS

### Total of \$1,000,000 for Low Bids on West Virginia Roads and Bridges.

Charleston, W. Va., July 30—[Special.]—Low bids have been received by the State Road Commission on eleven roads and one bridge project, the aggregate approximating \$1,000,000. These plans include grading, draining and paving with bituminous macadam in Clay County from south end of Clay Courthouse to Two Mile Run Road, including additional width to be built by the town, together with sewers to be installed, A. Keathley of Charleston being low bidder at \$100,921.

Other work covers five miles of grading, draining and cement paving in Preston County, J. M. Randich, Huntington, W. Va., low bidder at \$232,632; grading, draining and paving with water-bound macadam 5.8 miles in Hardy County, Chandler & Armstrong, Moorefield, W. Va., at \$112,579; three miles brick paving in Hancock County, Kane Bros., Youngstown, Ohio, \$126,419; grading, draining and paving with water-bound macadam, Pipes & Johnson, Middlebourne, W. Va., \$45,236; cement concrete paving on one mile in Brooks County, Ben C. Stringer, Rayland, Ohio, \$98,917; brick paving on one mile in Hancock County, Kane Bros., \$52,429.

For grading and paving with cement 1.2 miles in Pleasants County, Cisler & Morse of Marietta, Ohio, are low bidders at \$52,356; grading and draining 3.5 miles in Mason County, Skene & Co., Point Pleasant, W. Va., \$41,182; two miles of grading, draining and paving with bituminous macadam in Boone County, Abbott Bros., Charleston, \$50,850; grading, draining and paving with cement concrete in Cabell County, George L. Pence, Huntington, \$56,979.

Thompson & Doss of Huntington are low bidders at \$24,793 for building bridges in Mason County—one of 60-foot span, concrete deck girder, and one of 35-foot span, concrete deck girder.

### Louisiana Wants Bids for Roads and Bridges.

Baton Rouge, La.—The Louisiana Highway Commission will receive bids until August 14 at its office in this city for the construction of 9.555 miles of the Minden-Shreveport highway in Webster Parish, with bridges on the same section. Road work will consist of grading, draining, construction of concrete culverts and gravel surfacing.

Bridge construction will consist of approximately 810 linear feet of concrete pile trestle divided into seven structures, varying in length from 70 to 174 feet. The substructure will consist of four pile concrete bents of either "precast" or "cast in place" concrete piles, with reinforced concrete deck girders of approximately 22-foot spans.

Information and plans and specifications may be obtained from the office of the commission at Baton Rouge. W. T. Peterman is chairman of the State Highway Commission and J. M. Fourmy is the state highway engineer.

### Invites Bids on Nearly 17 Miles of Road and Three Bridges.

Walterboro, S. C.—Bids will be received until August 9 at the office of P. M. Buckner, Colleton County Highway Commission for building 16.76 miles of sand clay road in Colleton County, also three treated timber bridges, consisting of sixteen 14-foot spans. Section A of the road work begins at Walterboro and extends toward Yemassee, for a distance of 10.832 miles; section B begins at the end of Section A, and extends for 5.928 miles to Collins Cross Roads.

Plans, specifications and proposal forms are on file at the office of the division engineer, Orangeburg, S. C., and at the offices of the state highway engineer at Columbia.

### Alabama Lets Contracts for 52 Miles Road and Number of Bridges—Total Cost More Than \$1,000,000.

Montgomery, Ala.—Contracts have been awarded by the State Highway Commission of Alabama for the construction of more than 52 miles of road and several bridges, the total cost of which is \$1,005,582. The Stanley & Singer Co. of Lafayette, Ala., was awarded contract at \$515,982 for building 22.79 miles of gravel road in Walker County, while the Newell Construction Co. of Birmingham was awarded contract at \$76,696 for bridges on this road. The Stanley & Singer Co. was also awarded contract at \$157,710 for 10.75 miles of gravel road in Perry County, and Sam P. Boyd was awarded contract at \$17,732 for creosoted timber bridges on this road.

W. C. Hill received contract at \$127,264 for building 16.25 miles of chert road in Blount County, and W. T. Weaver was awarded contract at \$47,432 for the necessary steel bridges. Contract was awarded at \$62,766 to the Etowah County Commissioners, Gadsden, for building 2.35 miles of concrete road in that county.

### Virginia Opens Bids on 30 Miles of Road—Cost Will Total Nearly \$600,000.

Richmond, Va.—Bids have been opened by the State Highway Commission for the construction of 30 miles of roads and several bridges, the cost approximating \$600,000. Low bidders are as follows: Van Doren Bros. of Richmond, at \$114,550 for building 10.66 miles of gravel road on the Richmond-Newport News highway; C. H. Oliver, Boswell, Va., at \$50,979 for 6.27 miles of soil road in King William County; Lynchburg Construction Co., Warrenton, Va., at \$50,446, for 2.10 miles of bituminous macadam in Fauquier County, and Waugh & Langley, Bluefield, W. Va., at \$140,874 for 6.17 miles in Buchanan County.

The Cranford Paving Co., Washington, D. C., is low bidder at \$47,267 for 1.41 miles of concrete in Fairfax County; R. H. Bolling, Norton, Va., at \$73,890 for 1.57 miles of concrete in Wise County, and V. E. Cornett, Independence, Va., at \$66,830 for 2.7 miles of grading in Scott County.

Low bids for bridges include those of the Baker-Royer Co. of Richmond, at \$12,807 for a bridge over Diascund Creek; Atlantic Bridge Co., Roanoke, Va., at \$6509 for overhead bridge in Augusta County near Greenville, and the same company at \$21,233 for a bridge over Roanoke River near Kumis.

### Kentucky Opens Road Bids for Over \$625,000.

Jefferson City, Mo.—Bids have been opened by the State Highway Commission for road work in various sections of the state which will cost more than \$625,000 in the aggregate. These include \$398,926 for building gravel roads on three projects, \$16,326 for surface treatment of two of these, \$62,960 for building four bridges, \$61,705 for surface treatment of a number of other roads, and \$86,402 for the reconstruction of three roads with water-bound macadam.

### Humphreys County Wants Road Bids.

Belzoni, Miss.—Sealed bids will be received until August 6 by the Highway Commissioners of Northern Separate Road District No. 1, for improvement of 11.01 miles of road in the district. Plans and specifications for the work are on file in the office of the Chancery clerk at the court house in Belzoni, and any additional information may be secured from C. E. Miller, engineer, with offices here.

# LUMBER AND BUILDING MATERIALS

## Lumber Movement Gains Again.

Washington, July 26.—The nation's lumber business showed an appreciable gain over the preceding week again last week, according to the weekly review of the National Lumber Manufacturers' Association. With only 408 of the larger commercial mills of the country represented, as compared with a revised total of 423 for the preceding week, new business, shipments and production showed gratifying gains. As compared with last year the past week also showed advances in all three factors. The 137 Southern pine mills gave their unfilled orders as 250,985,065 as compared with 252,785,610 the preceding week and 128 West Coast fir mills gave their unfilled orders as 306,985,928 feet as against 349,761,933 the week before, the net decline in unfilled orders for both groups taken together being 44,576,530 feet.

For all the reporting mills shipments were 87 per cent and orders 78 per cent of actual production. For the Southern pine mills these percentages are respectively 90 and 87 and for the West Coast mills 100 and 90. Most of the mills have an established normal production figure for the week, in relation to which actual production was 107, shipments 95 and orders 86 per cent.

The following table gives the lumber movement for last week, the corresponding week of 1922 and the preceding week of 1923:

	Past Week	Corresponding Week 1922	Preceding Week 1923 (Revised)
Mills .....	408	368	423
Production .....	273,971,556	224,534,859	263,569,278
Shipments .....	238,532,807	214,745,867	231,313,698
Orders .....	214,822,645	206,982,446	208,265,237

The following table compares the reported lumber movement for the first 29 weeks of 1923 and 1922:

	Production	Shipments	Orders
1923 .....	7,102,633,635	7,331,430,859	7,220,550,231
1922 .....	5,901,915,595	5,997,527,955	6,357,825,589
1923 Increase ....	1,200,718,040	1,333,902,904	862,724,642

The West Coast Lumbermen's Association wires from Seattle that production of its member mills was 16 per cent above normal, with new business 10 per cent below production and shipments and new business balancing each other. Eight per cent of all new business taken during the week was for future water delivery, amounting to 34,497,545, of which

24,235,545 was for domestic cargo delivery and 10,262,000 feet for export cargo. New business by rail amounted to 1743 cars. Of last week's business 42 per cent of the shipments moved by water, amounting to 42,755,710 feet, of which 33,692,942 feet moved coastwise and intercoastal and 9,620,768 feet overseas. Rail shipments totaled 1807 cars and local deliveries amounted to 4,585,355 feet.

From New Orleans the Southern Pine Association wires as follows: "Substantial increases in new orders and production and a slight increase in shipments of Southern pine were recorded last week, as compared to the previous week. A revival of active demand for Southern pine was indicated in an increase of 15.7 per cent in orders. Favorable logging weather aided in an increase of 7.4 per cent in production. Out of 79 mills reporting running time 55 operated full time, including 5 working over time and three on double shift. Shipments gained 2.7 per cent."

The North Carolina Pine Association, representing mills from Virginia to Alabama, reports from Norfolk, Va., that a very unusual amount of new business was received early this week. Production has been curtailed on account of labor shortage and unfavorable weather. About 68 per cent of the mills are limping along with a scant log supply. The rest will hardly average 2 days a week. Notwithstanding the bulge in orders the first of this week, orders for last week hit the bottom, with shipments about 275 per cent of orders. Production exceeded shipments by not quite 2 per cent. Actual production throughout the territory was less than 60 per cent of normal.

The California White & Sugar Pine Manufacturers Association of San Francisco, reports that labor, car and log supplies are normal, weather fair, stocks slightly above normal, with the demand general.

## Uses for Limestone Screenings.

Limestone crushed to the consistence of sand grains may be used as a substitute for sand in mortar and wall plaster, according to the Department of the Interior, which has, through the medium of the Bureau of Mines, conducted a general study of the utilization of waste rock at lime plants. The superiority of crushed limestone over clean sharp silica sand is doubtful, but in regions where natural sand is scarce

	LUMBER MOVEMENT FOR TWENTY-NINE WEEKS, AND FOR THE WEEK ENDING JULY 21.			Orders	
	1923	1922	Shipments	1923	1922
<b>Southern Pine Association :</b>					
Total .....	2,220,131,117	2,076,151,146	2,311,903,226	2,116,228,165	2,179,749,985
Week (137 mills) .....	82,658,210	77,981,527	73,987,290	76,032,480	72,213,765
<b>West Coast Lumbermen's Ass'n :</b>					
Total .....	2,838,450,006	2,329,847,461	3,112,990,553	2,310,420,704	2,932,010,804
Week (128 mills) .....	101,568,069	81,629,782	101,551,063	83,358,136	91,372,900
<b>Western Pine Mfrs. Association :</b>					
Total .....	778,311,000	580,944,000	750,367,000	719,511,000	692,800,000
Week (39 mills) .....	37,332,000	30,655,000	23,217,000	27,690,000	22,350,000
<b>Calif. White &amp; Sugar Pine Mfrs. :</b>					
Total .....	386,208,000	164,582,000	303,699,000	144,493,000	662,299,000
Week (9 mills) .....	13,072,000	8,225,000	10,452,000	4,464,000	6,795,000
<b>Calif. Redwood Association :</b>					
Total .....	252,941,000	210,437,000	261,969,000	196,230,000	264,784,000
Week (14 mills) .....	10,596,000	5,380,000	8,672,000	3,483,000	6,340,000
<b>North Carolina Pine Association :</b>					
Total .....	265,330,512	242,184,901	276,347,980	229,007,968	211,047,542
Week (51 mills) .....	9,679,477	7,011,865	7,458,252	6,026,400	2,890,980
<b>Northern Hemlock &amp; Hardwood :</b>					
(Softwood) Total .....	74,058,000	58,002,000	75,862,000	76,959,000	69,613,000
Week (19 mills) .....	2,855,000	2,577,000	2,181,000	2,771,000	2,195,000
<b>Northern Pine Mfrs. Association :</b>					
Total .....	287,204,000	239,767,107	238,292,100	204,678,118	208,245,900
Week (11 mills) .....	14,327,800	11,074,685	7,674,200	10,920,851	5,396,000
<b>General Total for 29 weeks :</b>					
(Softwood) .....	7,102,633,635	5,901,915,615	7,331,430,859	5,997,527,955	7,220,550,231
Northern Hemlock & Hardwood :	93,052,000	.....	86,371,000	.....	80,522,000
General Total for Week .....	273,971,556	224,534,859	238,532,807	214,745,867	214,822,645
					206,982,446

the substitution of a limestone product may be justified, says the Bureau. Limestone screenings are used with success as fine aggregate in concrete for various purposes. Concrete brick, both common and face brick, are manufactured with limestone screenings as aggregate and are said to give satisfactory service in house construction. Limestone screenings without a binder are used for station platforms, the loose nature affording good drainage while a firm compact surface is formed by the footsteps of travelers and the wheels of baggage trucks.

### To Stimulate Building on Farms by Exhibiting Model Homes and Barns.

New Orleans, La.—With the idea of stimulating building on the farms and in the towns and cities of the various states, and assisting the public in solving their construction problems, the Southern Pine Association has arranged to have comprehensive exhibits at the state fairs of Missouri, Ohio and Illinois this fall.

Retail lumber dealers in each of these states will be notified of the exhibits and requested to co-operate in bringing the exhibits to the attention of the farmers and others.

The exhibits will include miniatures of model cottages, bungalows and larger dwellings, several of which are especially adapted for farm homes; miniatures of four model rooms—dining room, living room, bedroom and kitchen—showing modern built in features; panels of Southern pine flooring, ceiling and siding; also others showing popular finishes in Southern pine interior trim; plan books of homes, barns, etc., with plans and specifications.

### Production Highest for Months—Both Orders and Shipments Above Recent Weeks.

The Southern Pine Association for the week ended July 20 reports as follows on 137 mills:

	Cars	Feet
Orders on hand beginning of week .....	12,114	252,758,610
Orders received during week .....	3,461	72,213,765
Total .....	15,575	324,972,375
Shipments during week .....	3,546	73,987,290
Orders on hand end of week .....	12,029	250,985,085

Production for the week was 82,658,210 feet. Shipments were 8,670,920 feet below production or 10.49 per cent. Orders were 10,444,445 feet below production or 12.64 per cent. Orders were 2.40 per cent, or 1,773,525 feet below shipments. The week was 2,804,030 feet or 32.8 per cent below normal production. The decrease in orders on hand amounted to 1,773,525 or .70 per cent.

### Orders Increase for North Carolina Pine.

The North Carolina Pine Association reports as follows on 42 mills for the week ending July 21:

	Total Feet
Orders .....	3,750,980
Shipments .....	7,021,009
Production .....	8,584,665
Normal Production .....	11,694,000

The orders were 46 per cent below shipments, 56 per cent below actual production and 68 per cent below normal production. Shipments were 18 per cent below actual production and 40 per cent below normal production. Actual production was 27 per cent below normal. The week shows an increase in orders of 717,679 feet or 19 per cent.

J. Katzenstein, Leon B. Loeb and Sam Weiner of Shreveport, La., announce that details have been arranged for the erection of a \$300,000 building in that city which will be occupied by Feibleman & Co. of New Orleans as a department store. The structure will be four stories and basement.

## MECHANICAL

### Air Preheater for Boiler Efficiency.

In steam boiler operation a great loss results from the quantity of heat that is carried away wastefully by the flue gases and the accompanying illustration shows one of the Howden-Ljungstrom patent air preheaters manufactured by James Howden & Company of America, Incorporated, Wellsville, N. Y., for the purpose of securing better combustion and great economy of fuel. It is stated that the thermal efficiencies obtained through the use of this device on various boiler plants under coal burning and oil burning conditions range from over 84 to over 87 per cent gross and from about 87 to over 91 per cent net.

In steel works the temperature of air for combustion is commonly raised by passing fresh air and the flue gases alternately through regenerating chambers, the gases carrying the heat through the brickwork to the air, but in the case of steam boiler plants heat from the waste gases has been transmitted to the incoming air through metallic sur-



PREHEATER FOR PLANT BURNING A TON OF COAL AN HOUR.

faces separating the air passages from the flues, but in the preheater shown herewith neither of these principles is embodied. It was designed by Frederick Ljungstrom of Stockholm, Sweden, whose originality and invention have been demonstrated in the steam turbine and the turbo-locomotive bearing his name.

The preheater carries heat continuously by mechanical means from the flue gases to the incoming air and it is both compact and simple in operation, besides being capable of ready application to existing boiler plants or to new installations. A fan draws fresh air into the upper part of the casting which is in two sections separated by a vertical partition. The air is confined to one side of the partition and passes downwards to a similar semi-circular chamber through the body of a porous cylindrical drum or rotor. The flue gases from the boiler go through the apparatus in a reverse way, first entering the lower semi-circular chamber and passing upwards through the rotor to the upper chamber whence they are exhausted and driven out to the stack by another fan.

The rotor is continually kept in slow rotation so that the part heated by the flue gases is always passing to the other side of the device and giving up its heat to the cold air

sweeping through it and the cooled part of the rotor also continually returns to be again heated by the gases. There is no transfer of heat through metal and any deposit of soot or tarry matter has no serious effect. Moreover, it may be cleaned off in a few moments with a jet of steam. The rotor is of thin sheet steel and is divided into sections by radial plates which serve as stiffening spokes. It resembles a honeycomb structure and allows a very liberal heating surface, but with very little obstruction to the gases and the air. Friction drive is used. It is claimed that for economy the preheater is not only more efficient than other devices but is lighter and less expensive in first cost and maintenance.

The picture shows an air preheater for a steam plant burning a ton of coal per hour. Assuming that the flue gases leaving the boiler have a temperature of 572 degrees Fahrenheit the preheater cools them to 212 degrees by absorbing the heat difference, which according to tests, it is stated, saves over 20 per cent in fuel yet the weight of the heating elements is only 7100 pounds.

Besides being used for boilers in stationary plants the air preheater is also used on steamship boilers with corresponding efficiency.

#### Lumber Computing Instrument.

A lumber computing device, the main object of which is to enable the user to accurately measure a tree so as to ascertain exactly the number of logs and the quantity of board feet which can be obtained from it before the tree is touched with axe or saw, is shown in the picture herewith. The patentee,

J. F. Werner, 330 East Loos St., Hartford, Wis., says:

"The instrument can be set at a distance of either 50 or 100 feet from the center of the tree to a point directly beneath the center of the instrument, indicated by a plumb bob similarly to a surveyor's instrument. Then, from this position the head of the instrument is to be swung by means of a worm and wheel arrangement so as to bring the line of sights—which are adjustably carried on top of the



INSTRUMENT READY FOR USE.

instrument head—to the lowest point at which the tree should be cut. With the instrument in this position the side scale, (upper side scale if the 50 foot distance is used, or lower side scale if 100 foot distance is used), is brought backward till zero on the scale registers with the swinging indicator, after which the scale is locked into position by a thumb screw. Next the instrument head is swung upward until the line of sight strikes the tree at the highest point at which it should be cut, and then by reading on the scale at the point covered by the swinging indicator the number of logs as well as the length in feet of each log can be obtained simultaneously.

"Next, the head is lowered so as to strike the half length of the upper log with sight line, and by moving the adjustable sighting piece, the exact mean diameter of this log is obtained by reading directly on the extreme upper scale immediately under the movable sighting piece, which indicates this mean

diameter on the scale in inches, from which, (by referring to the revolving calculator which is a separate part of this instrument; shown in the picture standing on the ground at the tripod), information as to the exact number of board feet is obtained. The same procedure is to be followed for each succeeding log in the tree."

Mr. Werner adds that the instrument should be of interest to owners of forests, and especially to lumber mill men and dealers in real estate. He has had it patented and it may be had for sale or manufactured on a royalty basis.

#### Portable Conveyor for Loading Trucks.

Utilizing a machine for service formerly done by manual labor is one way of overcoming the labor shortage which threatens to become more acute and this picture shows how R. McAllister of Philadelphia has reduced to a minimum the employment of unsatisfactory hand labor for loading delivery trucks.

It is stated that before installing a Link-Belt portable conveyor as illustrated it required four good men thirty minutes



CONVEYOR LOADING A TRUCK.

to load the truck, but the conveyor now loads the same two ton truck in five minutes with only one man employed and that period allowing ample time for backing and placing the truck. It is said that once in place the conveyor loader can handle a ton a minute with uniform feed.

Estimating labor at \$5 a day per man the economy in labor costs would total a considerable sum in the course of a month and it is pointed out that this saving, coupled with the saving of 25 minutes per load in truck time, (a truck earning money only while busy and usually costing from \$16 to \$20 per day), soon justifies the investment in the conveyor and the consumption of the small amount of electricity necessary to operate a two horse power motor to run it.

This machine was designed and built by the Link-Belt Company, Nicetown, Philadelphia, Pa.

#### Docks and Wharves Planned on Lake Worth Site.

West Palm Beach, Fla.—The construction of docks and wharves will probably result from a deal which has been closed by Brown & Co. of Portland, Me. who have acquired submerged land in Lake Worth at Palm Beach. This company recently acquired a large acreage of land in Palm Beach County for the cultivation of peanuts and it is for the purpose of providing shipping facilities that this property was secured.

The deal was closed by representatives of Brown & Co. in conference with the Lake Worth Inlet Commission and the Internal Improvement Board of Florida. While Brown & Co. will be given the opportunity of locating their docks and wharves on the main channel, the Lake Worth Inlet Commission will be able to proceed with its plans for a turning basin.

# Construction Department

## EXPLANATORY

Additional information is published about all enterprises mentioned in this department as soon as such data can be obtained. Further facts about any incomplete or incorrect item reported in these columns are always appreciated.

## DAILY BULLETIN

The Daily Bulletin is published every business day to enable its subscribers to follow up promptly the industrial, commercial, railroad, financial, building and general business development of the South and Southwest. To machinery manufacturers and dealers, contractors, engineers, and others who require daily information of every new enterprise organized and details about important additions to enterprises already established, the Daily Bulletin is invaluable. Subscription price, \$20.00 a year.

### Bridges, Culverts and Viaducts

Ala., Huntsville—State Highway Dept. will receive bids for construction of 269.5 ft. concrete ridge between Huntsville and Guntersville. W. S. Keller, State Highway Engr.

Ala., Montgomery—State Highway Comm. let contract for 3 bridge projects as follows: Steel bridges in Walker county to Newell Construction Co., Birmingham, Ala., at \$76,696.88; bridges in Blount county to W. T. Weaver, at \$47,432.88; crooked timber bridges in Perry county, Sam P. Boyd, at \$17,732.29.

Fla., DeLand—Details under Road and Street Construction.

Fla., Jacksonville—Florida East Coast Railroad will build bridge over St. John's river at Jacksonville, approximate cost, \$1,000,000. W. G. Brown, Engr. of Roadwork, Florida East Coast Railroad, St. Augustine, Fla.

Kentucky—State Highway Comm. received low bids on 4 bridges as follows: Rowan County, Federal Aid, No. 67, 100-ft. steel bridge on Hoorehead-Grayson road over Trippett Creek, Broaddus and Forbes Co., Richmond, Ky., \$9728.50; Kenton county, two 34 ft. and 40 ft. concrete spans over Bank Lick Creek, on Independence-Falmouth road, Broaddus and Forbes Co., Richmond, Ky., \$20,782.40; Morgan county, Federal Aid, No. 95, 2 bridges, five 34 ft. concrete spans over Blackwater and Rassey Creeks on West Liberty-Frenchburg road, Ellis and Smeathers, Owensboro, Ky., \$32,450.80.

Louisiana—Louisiana Highway Comm., Raymond Bldg., Baton Rouge, La., will receive bids until August 14 for construction of 7 bridges on Minden-Shreveport highway, Federal Aid Project 116, Section D, Webster Parish; 810 lin. ft. concrete pile trestle divided into seven structures varying from 76 ft. to 174 ft.; substructure consists of 4 pile concrete bents of either precast or cast in place concrete piles; superstructure consists of reinforced concrete deck girders of approximately 22-ft. span. J. M. Fourmy, State Highway Engr.

La., Baton Rouge—Louisiana Highway Comm. Details under Road and Street Construction.

Miss., Poplarville—H. W. Cowgill, Bogalusa, La., has been awarded contract for bridging the Pearl River swamp on the Poplarville-Bogalusa road, at \$31,000.

Mo., Jefferson City—Missouri Highway Comm. let contract for construction of bridge on state road from Milan to Green City, Sullivan County, State Project, Route 6, Sec. 35A, to Woodsman & Woodsman, Marshall, Mo., at \$9165.70.

Okl., Pauls Valley—Garvin county let contract for construction of bridge across the Washita river, 2 mi. northeast of city, to Southwestern Bridge Co.

S. C., Anderson—State Highway Comm. will let contract to General Road and Drainage

Construction Co., Columbia, S. C., at approximately \$23,870.74 for construction of bridges and culverts lower end of Abbeville road. (Lately noted.)

S. C., Union—Union County commrs. let contract for construction of 2 concrete bridges, one over Rock Creek on the Jonesville road and one over the Forest on the West Springs road, to General Road, Drainage and Construction Co., Columbia, S. C., at \$27,000.

S. C., Walterboro—Colleton County will receive bids until August 9 for 3 treated timber bridges totaling 16-14-ft. spans. W. C. Cathay, Division Engr., Scoville Bldg., Orangeburg, S. C.

Tenn., Union City—Details under Miscellaneous Construction.

Va., Richmond—State Highway Dept., 413 N. 10th St., Richmond, Va., will receive bids until August 21 for 4 bridge projects as follows:

Project S-196, route 22, approaches to Craig Creek, Bridge in Craig County, 6506 cu. yds. excavation, .56 mi. grading; Project S-248B, route 18, bridge over Piney river near Canody in Amherst and Nelson County, one 100-ft. steel truss concrete floor roadway, 19 ft., 5940 lbs. reinforcing steel, 87,200 lbs. structural steel; Project S-248C, route 18, bridge over Allens Creek near Rose Mill in Nelson County, two reinforced concrete beam spans, roadway 24 ft., 16,450 lbs. reinforcing steel; Project F-276B, route 39, bridge over South Anna River near Green Springs, in Louisa County, 3 reinforced concrete beam spans, 38,235 lbs. reinforcing steel. H. G. Shirley, Chmn.

Va., Richmond—State Highway Comm. received low bids on 3 bridge projects as follows:

Project F-157-B, Route 39, over Diascund Creek, in James City and New Kent Counties, Baker-Royer Co., Richmond, Va., \$12,807.70; Project F-182-B, Route 33, Augusta County, overhead bridge over the Baltimore and Ohio tracks near Greenville, Atlantic Bridge Co., Roanoke, \$6509; Project S-269, Route 10, bridge over the Roanoke River, near Kumis between Montgomery and Roanoke Counties, Atlantic Bridge Co., Roanoke, \$21,233.31.

W. Va., Charleston—County will receive bids until August 17 for construction of bridge over Elk river in the town of Clendenin, steel superstructure, with wood block floor, consisting of 5 spans. Plans at office R. N. Moulton, County Clerk of Kanawha County, Court House, Charleston, W. Va.

W. Va., Charleston—State Road Comm. received low bid from Thompson and Doss, Huntington, at \$24,793.28 for bridges 857 and 858, project 3138, Mason County, Five Mile bridge, concrete deck girder, 60 feet span and Three Mile bridge, concrete deck girder, 35 ft. span.

### Canning and Packing Plants

La., Houma—Houma Packing Co., capital \$15,000, incorporated by Lee P. Lottinger, Theo. Engerer, Linest Picou.

Tex., Fort Worth—D. B. Chapin of San Antonio, Tex., will establish chain of canning plants in fruit and vegetable belt of East Texas; has option on plant at Lindale, Tex.

### Clayworking Plants

Ky., Dayton—Interlock Brick & Tile Mounting Co., incorporated by W. F. Hoffman and Henry Fahreholz; both Dayton; Alonzo V. Gray, Covington; John Martin, Newport.

Ky., Owensboro—Owensboro Clay Products Co., capital \$100,000, incorporated by Ben F. Medley, John A. Bolger, H. B. Eagles; let contract to J. M. Cutshall & Sons, Brazil, Ind., for erection of plant at Bon Harbor; will install machinery for manufacture of brick, hollow tile and building blocks.

Tex., Dallas—Dallas Pottery Co., Taylor Jackson, Mgr., will soon begin construction of \$75,000 pottery plant at Love Field. (Lately noted.)

W. Va., Warwood—Progressive Ceramics Mfg. Co., Hazlett Ave., organized by Alec Wishnew and Harry Kalin; will establish plant for the manufacture of clay specialties.

### Coal Mines and Coke Ovens

Ala., Dora—Goodwin Coal Co., capital \$100,000, incorporated by Olin Goodwin, M. E. Moor, C. I. Jones.

Ala., Montgomery—Ray Coal Co., capital \$9000, incorporated by F. V. Braham, R. Crisman, and others.

Ky., Louisville—Rainbow Coal Co., capital \$25,000, incorporated by C. D. Salyers, F. S. Salyers and others.

Tenn., Memphis—Southland Coal Co., capital \$30,000, incorporated by J. M. Green, T. D. Hunt, Geo. Coatway.

Tex., Grand Saline—Saline Coal Co., J. F. O'Neal, Pres., and Mgr., Texarkana, Ark., lately noted incorporated with \$90,000 capital, will develop 303 acres; operations to start within 60 or 90 days.

### Concrete and Cement Plants

Tenn., Crab Orchard—Southland Portland Cement Co., capital \$1,000,000, Incorporated by James C. Parker, New York; Lou H. Wright, Indianapolis, Ind.; Ben. L. Ireland, Nashville; will erect plant with annual capacity of 1,000,000 bbls. of cement; will require year to construct plant; reported.

### Cotton Compresses and Gins

Ala., Castleberry—Castleberry Gin & Milling Co., organized with Lindsay H. Riggs, Pres.; Allen T. Weaver, Sec.-Treas.; will install cotton gin.

Miss., Ripley—J. W. Wardlow will install cotton gin.

Okl., Caddo—Farmers Gin Co. increased capital from \$10,000 to \$25,000.

Tenn., McKenzie—C. M. Watson of Watson, White & Co., Huntington, Tenn., has acquired gin owned by Crescent Cotton Oil Co.

Tex., Fort Worth—E. M. Rogers Co., capital \$7500, incorporated by E. M. Rogers, C. D. Ferguson, B. C. Smith.

Tex., Quinlan—McAuley Gin Co., capital \$10,000, incorporated by R. F. Garnett, G. L. Heith and others.

### Cottonseed-Oil Mills

N. C., Hertford—Eastern Cotton Oil Co. increased capital from \$500,000 to \$750,000.

Tex., Waco—Industrial Cotton Oil Co., capital \$150,000, incorporated with W. D. Kyser, Pres., Marlin, Tex.; J. M. Ford, Sec., Waco; acquired and will operate American Cotton Oil Co.'s plant.

### Drainage and Irrigation

Fla., Tampa—Interbay Drainage Dist. is having plans prepared by Hiram McElroy, Engr., Room 32, Giddens Bldg., for drainage work; will probably call for construction bids Jan. 1.

Tex., Childress—Tom Yarbrough, Prop. of Buckle L. Ranch, and Lafayette Hughes, Mgr., of C. V. Ranch, interested in irrigation system for approximately 100,000 acres of land; obtain water from North Pease River; J. M. Crew, Engr.

Tex., Crystal City—City proposes to install irrigation system with view of developing about 5000 acres of land; will form irrigation district; will probably vote on bonds; C. S. Clark, Irrigation Engr., Board of Water Engrs.

### Electric Light and Power Plants

Ala., Wetumpka—Alabama Power Co. will construct transmission line; will erect substation in East Wetumpka; will probably take over city lighting system.

Fla., Hollywood—Details under Land Developments.

Fla., Lake Worth—Details under Water Works.

Ky., Bowling Green—Lost River Electric Co., incorporated by W. H. McCampbell, H. V. Taylor and others.

Md., Baltimore—Consolidated Gas, Electric Light & Power Co., Lexington and Liberty Sts., will erect building at Klemans St. and Western Md. R. R.; 144x47 ft.; cost \$103,000.

Miss., Vicksburg—Mississippi Power & Light Co., organized with H. C. Couch, Pres., Jackson, Miss.; will operate public service

utilities in Jacksonville, Vicksburg, Columbus, and Greenville. (Lately noted.)

Mo., Columbia—McBaine Electric Transmission Co., incorporated by E. J. Douglass, W. W. Riggs and others.

Mo., St. Louis—Missouri Public Utilities Co. granted conditional consent to acquisition by Union Electric Light & Power Co. of St. Louis, of 27 public utilities companies at Cape Girardeau, Poplar Bluff, Bonne Terre, Charleston, Webb City, Sikeston, Morehouse, etc.

N. C., Mocksville—City let contract to Electrical Construction Co. of Charlotte, N. C., to install lighting and power plant; cost about \$15,000.

N. C., Powellsburg—City let contract to Banks & Burke, Engrs., Norfolk, Va., to erect transmission line from Ahoskie to Powellsburg.

N. C., Sharpsburg—Town plans extending and enlarging electric light system; will issue \$10,000 bonds; E. H. Jones, Town Clk.

N. C., Winton—City let contract to Banks & Burke, Engrs., Norfolk, Va., to erect transmission line from Ahoskie to Winton.

Okl., Mineo—Chickasha Gas & Electric Co. acquired municipal power plant; has franchise for light and power transmission line.

S. C., Gaston Shoals—South Carolina Gas & Electric Co., Spartanburg, S. C., let contract to S. Morgan Smith Co., of York, Pa., and General Electric Co. of Schenectady, N. Y., for hydraulic and electrical generating equipment to be installed in fireproof addition to hydro-electric plant; cost approximately \$150,000.

S. C., Pageland—For full details see Water Works Construction.

Tenn., Athens—Tennessee Electric Power Co., Chattanooga, Tenn., has acquired distribution systems of Athens Light & Power Co.

Tex., Bronte—F. E. Brown and C. C. Holden have franchise for electric light and power plant; will install 50 h. p. gasoline engine and generator.

Tex., Dallas—Details under Land Developments.

Tex., Edgewood—City plans installing light plant and water-works; voted \$55,000 bonds. Address The Mayor.

Tex., Fort Worth—City will construct ornamental lighting system in Mistletoe Heights. Address The Mayor.

Va., Richmond—Virginia-Carolina Power Co., capital \$500,000, organized with Marvin Smith, Pres., Lawrenceville, Va.; William Gray, Sec., Richmond; distribute electricity in Mecklenburg and Brunswick Counties, in

Virginia and Warren County, North Carolina; will construct 20-ft dam.

### Flour, Feed and Meal Mills

Mo., Kansas City—Kansas Flour Mills Co., capital \$91,000, incorporated by L. E. Moses, T. J. Holdridge and others.

Mo., Springfield—Greene County Roller Mills let contract to Pauly Construction Co. for erection of flour and feed mill on Chase St.; cost approximately \$30,000.

Okl., Guthrie—H. O. Miller of Norman, Okla., acquired Gresham Flour Mills plant.

### Foundry and Machine Plants

Tenn., Knoxville—Day-Evans Iron Works, A. B. Day and W. E. Evans, will erect plant to manufacture mine car equipment.

Tex., Dallas—Oil Well Machinery—Gulberson Corp. reported to expend approximately \$500,000 in improvements and additions to plant at Pennsylvania Ave.

Va., Norfolk—C. H. Boyles, Gen. Mgr. Shamrock Propellers Co., Seattle, Wash., reported to plan construction of \$200,000 foundry.

### Gas and Oil Enterprises

Mo., St. Louis—Keen & Wolf Oil Co., capital \$10,000, incorporated by P. B. Drew, C. L. Rimlinger and others.

Okl., Bartlesville—Tyrone Oil Co., capital \$12,000, incorporated by Herman Axelrod, Montie Vandeventer, F. M. Overlees.

Okl., Muskogee—Powell & Wasson, Inc., lately noted increasing capital from \$50,000 to \$300,000, contemplate erecting natural gasoline plant.

Okl., Walters—Payne Drilling Co., incorporated by Fred T. and Buelah Payne, and D. B. Malarnee.

S. C., Chapin—Chapin Gas & Oil Co., increased capital from \$5000 to \$7000.

Texas—East Texas Gas Co., H. B. Scofield, Pres., Shreveport, La., has secured right of way and soon to begin construction of 65 miles of pipe line; cost \$536,000; J. S. Connally, Engr., Lake Charles, La.

Tex., Amarillo—Mountain State Pipe Line Co., lately noted incorporated with \$35,000,000 capital, Chas. E. Sutton, Gen. Mgr., will construct 28 mi. of 18-in. pipe line; also erect \$1,500,000 gasoline absorption plant, to be financed by Producers and Refiners Corp., Chicago, Ill.; has 280,000 acres for development.

Tex., Corsicana—Magnolia Petroleum Co. has begun preliminary work on construction of 1,000,000 bbl. tank farm; will erect three 65,000 bbl. tanks at company's refinery, south

## We Publish a Daily Bulletin of brief news items of business activities in the South and Southwest which open many Sales Opportunities.

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MANUFACTURERS RECORD

BALTIMORE, MD

of town and 12 tanks of same capacity near old city waterworks site.

Tex., Dallas—Lone Star Gas Co. let contract to Williams Bros. of Tulsa, Okla., to construct 13½ mi. of 18-in., 13½ mi. of 16-in. and 24 mi. of 12-in. pipe line; estimated cost \$1,200,000; J. C. Brokaw, Engr., Dallas, Tex.

Tex., Dallas—Details under Land Developments.

Tex., Dallas—Globe Drilling Co., and Rock Island Refining Co., capital \$100,000, incorporated with C. H. Verschoyle, Pres.; will receive bids in about 10 days to install cracking plant; L. B. Simmons, Engr., Duncan, Okla.

Tex., Fort Worth—Prescott Oil Co., capital \$80,000, incorporated by J. P. Bech, D. H. Bradley and others.

Tex., Fort Worth—Ladd-Hannon Oil Corp., capital \$50,000, incorporated by L. D. Ladd, V. J. Hannon and others.

Tex., Houston—Southern Exploration Co., capital \$25,000, incorporated by R. E. Brooks, Jr., H. A. Russell, and others.

Tex., Ladonia—Ladonia Cotton Oil Co. increased capital from \$50,000 to \$150,000.

Tex., Ranger—Lone Star Gas Co. is constructing about 50 miles of 18, 16 and 12 in. pipe line extension into the Ranger Eastland oil field, with 4 compressor stations, also gasoline plant at Gordon, Tex., with 55,000,000 cu. ft. of gas per day capacity; estimated cost of work \$1,300,000.

Tex., San Antonio—Ajax Petroleum Co., incorporated with L. H. Courses, Pres.; John S. Trowbridge, Sec.; has acquired and will operate former plant of San Antonio Refining Co.; will increase output.

W. Va., Charleston—Midland Oil & Gas Co. increased capital from \$25,000 to \$75,000.

### Ice and Cold-Storage Plants

Fla., Pahokee—Details under Water-Works.  
La., Bunkie—Bunkie Ice Co., Ltd., increased capital from \$50,000 to \$100,000.

Okla., Oklahoma City—Artic Ice Co. increased capital from \$15,000 to \$50,000.

Tex., Corsicana—W. H. McGrath, Engr., interested in constructing \$100,000 brick and concrete ice plant.

Tex., Dallas—Jos. E. Decker & Sons will erect cold storage plant; Delmer David, Contr.

### Iron and Steel Plants

W. Va., Wheeling—Wheeling Steel Corp. is reported considering issuing \$75,000,000 bonds; \$10,000,000 to be used as security for \$8,000,000 convertible notes, and \$65,000,000 to be held in reserve for future developments, etc.

### Irrigation Systems

Tex., Lubbock—City interested in constructing dam across Yellowhorse Canyon, to develop pleasure resort. Address The Mayor.

Tex., Seymour—City interested in construction of dam across Brazos River, 22 miles from city; will dam water to irrigate 100,000 acres of land. Address James A. Britain, Mayor.

Tex., Three Rivers—City is having preliminary plans prepared by Terrell Bartlett of Terrell Bartlett, Engrs., for construction of \$500,000 dam on Atascosa River, near Three Rivers; this will be the first of a series of 5 dams to be built in San Antonio territory; reservoir will make available about 40,000 acre feet of water per year; will probably vote on bonds; will form irrigation district to be known as Live Oak County Irrigation District, No. 1.

### Land Development

Fla., Hollywood—Dixie Development Co., lately noted incorporated with \$10,000 capital, C. T. Turner, Pres.; B. J. Craft, Sec.; will develop 300 acres for subdivision; will install lights, water, sewer, build sidewalks, streets, etc.

Fla., Jacksonville—Cordan Realty Co., capital \$50,000, incorporated with R. P. Walker, Pres.; L. P. McCord, Sec.

Fla., Jacksonville—Haven Heights Assn., capital \$50,000, incorporated with Neil Alford, Pres.; W. C. Kent, Sec.-Treas.

Fla., Jacksonville—Five Acre Co., Inc., lately noted incorporated with \$10,000 capital; C. A. duPont, Mgr.; Pearl Silva, Sec.; will develop between 12,000 and 15,000 acres of land in 5 acre tracts; will expend \$12,000; will build roads and streets.

Fla., Pierson—Horne Groves Co., A. C. Anderson, Pres., let contract for clearing 100 acres of land and will develop 80 acres in citrus fruits.

Fla., Punta Gorda—Carleton Fruit Co., capital \$30,000, incorporated with Charles C. Carleton, Pres.; Robt. T. Carleton, Sec.

Fla., Sanford—City plans voting on \$75,000 bonds; \$40,000 for country club and golf course and \$35,000 for athletic field. Address The Mayor.

Fla., Tarpon Springs—City plans purchasing site, and establishing municipal amusement park; will vote Aug. 20 on \$45,000 bonds. Address City Commrns.

Fla., West Palm Beach—Details under Miscellaneous Construction.

Ky., Louisville—Forest Park Land Co., capital \$10,000, incorporated by H. M. Bomar, R. A. McDowell and others.

Md., Baltimore—Hart-Miller Islands Co., 1820 Eastern Ave., capital \$100,000, incorporated by Teofel Waszkiewicz, Stephen Smalkoski and others.

Md., Baltimore—Bush River Beach, 344 Equitable Bldg., capital \$50,000, incorporated by Edwin H. Browne, Frank B. Wood, Irving Lippens.

Mo., Jefferson City—Fritz Schott has acquired 5½ acres at Jackson and Dunklin Sts. and will develop for subdivision; will install water and sewer; construct sidewalks, etc.

N. C., Asheville—Lakeview Corp., lately noted to develop 135 acres for subdivision, installing streets, water, lights, etc.; reported to expend \$150,000 for the establishment of 18-hole golf course and club house.

N. C., Asheville—Commercial Land Co., incorporated by George H. Wright, Julius Martin, Julius Martin, Jr.

N. C., Raleigh—Prince Realty Co., capital \$100,000, incorporated by R. E. Prince, R. L. Lassiter, J. H. Sears.

N. C., Wilmington—Realty Sales and Development Co., of Wilmington, capital \$30,000, incorporated by R. C. Cartwell, C. J. Cowan and others.

Okla., Gotebo—Uniondale Cemetery Assn., incorporated by June Tucker, Gotebo; P. K. Gourley, Sedan, Okla.

Okla., Poteau—Poteau Chamber of Commerce, R. E. Baird, Pres., and W. Bridges, Mgr., in cooperation with Rotary and Lions Clubs will develop 10 acres for tourist park; will install shower baths, comfort stations, kitchen, water, gas, lights, etc.

S. C., Beaufort—Christiansen Realty Co., incorporated with Frederick H. Christiansen, Pres.; T. H. Harms, Secy. and Treas.

Tex., Dallas—Ferguson & Phillips will expend about \$200,000 in developing Kessler

Highlands for subdivision; Myers & Noyes, Engrs.

Tex., Dallas—Kessler Improvement District organized with C. S. Mitchell, Pres.; E. N. Noyes, Sec.-Treas.; will develop 1,500 acres for subdivision; will install water, lights, sewer, gas, roads, etc.

Tex., Fort Worth—Summit Realty Co., capital \$10,000, incorporated J. N. Sligar, R. L. Lane, S. L. Lawrence.

Tex., Fort Worth—Fort Worth Methodists, Rev. Frank P. Culver, Dist. Presiding Elder, have acquired 230-acre tract at Lake Worth and will develop for encampment; will erect auditorium, and other buildings; cement sidewalks, and driveways; etc.

Tex., Port Arthur—Model Realty Co., capital \$56,000, incorporated by E. L. Vaughan, B. R. Holstine and others.

Va., Danville—Star Improvement Co., capital \$50,000, incorporated with C. H. Gunter, Pres.; A. M. Aiken, Sec.-Treas.

Va., Richlands—Richlands Improvement Co., capital \$10,000, incorporated with C. B. Orr, Pres.; Tom G. Soratt, Sec.

Va., Richmond—Monument Ave. Development Corp., capital \$50,000, incorporated with R. E. Peyton, Jr., Treas.; D. R. Creeor, Sec.

W. Va., Huntington—Swan Land Co., capital \$25,000, incorporated by M. Broh, W. L. Mangert, E. A. Bailey.

### Lumber Enterprises

Ala., Bon Secour—Bon Secour Lumber Co., capital \$25,000, incorporated by C. W. Stallworth, E. C. Meredith, Jr., B. B. Brown.

Ala., Luverne—Luverne Lumber Co., capital \$25,000, incorporated by F. M. Douglass, Sr., F. M. Douglass, Jr., Guy R. Brightwell.

Ala., Northport—Deal-Persons Planing Mill Co., Tuscaloosa, Ala., has acquired Modern Lumber Co.'s plant; will enlarge and improve and install additional equipment.

Fla., Mulberry—Pipkin Lumber Co., capital \$10,000, incorporated with L. N. Pipkin, Pres.; Luther N. Pipkin, Sec.-Treas.

Ky., Corbin—Heath Lumber Co., capital \$50,000, incorporated by A. P. Witty, C. Bishop and O. J. Kogel.

Md., Baltimore—James Lumber Co., 921 Aliceanna St., increased capital to \$40,000.

Miss., Poplarville—Stewart Lumber Co., capital \$20,000, incorporated by J. P. Stewart and S. W. Hoskins.

Miss., Ripley—J. W. Wardlow plans installing planing mill.

S. C., Columbia—Southern Wholesale Lumber Co., C. P. Robinson, Gen. Mgr., will erect plant on Green, Huger, Divine and Pulaski Sts., to replace structure lately noted burned.

Tex., El Paso—Rheinheimer Lumber Co., capital \$25,000, incorporated by W. M. Rheinheimer, N. N. Rheinheimer and others.

Tex., Trinity Heights—Davis-Johnson Lumber Co., capital \$40,000, incorporated by Wirt Davis, W. B. Johnson, George Bean.

W. Va., Wheeling—R. R. Kitchen Lumber Co., capital \$200,000, incorporated by R. R. Kitchen, L. H. Green, George Bullinger.

### Mining

Ala., Fayette—Coal—Moss & McCormick, Birmingham, Ala., leased 1840 acres government mineral land in Fayette County for coal mining, known as coal lease unit No. 275; cost \$85,000.

Md., Cardiff—Cardiff Green Marble Co., increased capital from \$500,000 to \$750,000.

Tex., Houston—Southwestern Graphite Co., Burnett, Tex., C. A. Wheeler, Mgr., will erect

graphite grinding plant and warehouse on Lyons Ave.; initial and main unit will be 200x50 ft. equipped with modern machinery; will install 48,000 lb. grinding machine; capacity 15,000 lbs. of ground graphite daily; cost approximately \$150,000.

Tex., Huntsville—Huntsville Stone Crusher Co., organized by David M. Picton, and A. N. Peckham; both Huntsville; W. F. Paul, San Antonio; have leased rock mountain in Walker County; will open quarry.

### Miscellaneous Construction

Ark., Bridge Junction—Levee—St. Francis Levee Board, H. D. Tomlinson, Pres., will receive bids until Aug. 15, for excavation of about 32,000 cu. yds. earth, adjacent to levee in Lee County; plans, etc. from H. N. Pharr, Ch. Engr., Bridge Junction.

Fla., Daytona—For full details see Sewer Construction.

Fla., Hollywood—Dixie Dredging Co., organized with F. O. Van Deren, Pres.; P. R. John, V. P.; F. C. Dickey, Sec.-Treas.; let contract to Ellicott Machine Corp., Bush & Severn Sts., Baltimore, Md., at \$100,000, to build 16-in. dredge, for completing fill and digging 2 lakes at Hollywood; F. C. Dickey, Constr. Engr.

Fla., Jacksonville—Bulkhead—City, E. P. Owen, Jr., Sec., invites bids for completion of bulkhead for third pier at municipal docks and terminals.

Fla., Miami—Island—Fairhaven Co. applied to Secretary of War for permit to construct an island in Biscayne Bay opposite city of Silver Bluff; proposed island will be 1400 ft. long by 700 ft. wide with landward edge 600 ft. from bulkhead forming southeast border of plot; work involves dredging of considerable area, construction of trestle bridge connecting island with main land, etc.

Fla., West Palm Beach—Seawall, etc.—City will vote Aug. 14 on \$220,000 bonds as follows: \$25,000 for equipping and maintaining fire department and completing installation of high pressure water system; \$100,000 for erection of seawalls as required; \$14,000 for completing memorial library; \$6000 to create a revolving lot cleaning fund; \$25,000 for public park improvements; \$30,000 to establish city athletic field; \$20,000 to purchase 20-ton incinerator. George L. Wright, City Manager.

Fla., West Palm Beach—Brown & Co., of Portland, Me., reported to have acquired submerged land at West Palm Beach inlet and will construct docks and wharves for loading peanuts. (Lately noted acquiring 60,000 acres of Everglade lands and developing in peanut culture.)

Miss., Clarksdale—Levee—Boar.l of Levee Commrs., for Yazoo-Mississippi Delta, will receive bids until Aug. 14 to enlarge old Ward Lake levee (5 mi.); approximately 10,000 cu. yds. topping; 75,000 cu. yds. bauquett enlargement; plans, etc., from W. L. Head, Ch. Engr.

Mo., Jefferson City—Piers—Cole County Commrs. open bids Aug. 7 for excavation and construction of two-reinforced concrete piers at Hickman Creek, Marion Township, between New and Old Marion on the Booneville Road and replacing old bridge on same; plans, etc., at office of James H. Jones, County Highway Engr., Jefferson City.

S. C., Spartanburg—Swimming Pool—City, P. J. O. Smith, Supt. Street Dept., will construct municipal swimming pool of 500,000 gals. capacity using city water, purified at pumping station; will install circulating system of about 300,000 gals. filtering capacity in 12 to 15 hrs. (See Machinery Wanted—Recirculating System.)

Tenn., Union City—Levee—Obion County plans levee and bridge construction; will vote Sept. 15 on \$100,000 bonds. Address County Comms. (Lately noted.)

Tex., Crockett—Hurricane Shoals Bridge Co., capital \$25,000, incorporated by M. Bromberg, F. A. Smith, and J. C. Miller.

Tex., Houston—Ship Channel—United States Engineering Dept., at Galveston, Tex., opened bids for dredging Houston ship channel above Clinton and widening turning basin; following were lowest bidders: Section 1 provides for removal of about 750,000 cu. yds. of material, including the widening of turning basin out to the Harrisburg line, on lower east side, over a depth of 30 ft. Atlantic, Gulf and Pacific Co., at \$3598; Section 2 provides for dredging channel from mouth of Vincents Bayou to point at lower end of Harrisburg cutoff above Manchester, approximately 2,300,000 yds. of material to be removed, United Dredging Co., at \$328. (Lately noted.)

Va., Richmond—Mausoleum—S. M. Dooley let contract to I. J. Smith, Hermitage Rd., Richmond, at \$65,000, to erect granite and concrete mausoleum at Maymont; 17-ft. high; 16-ft. across front; Baskerville & Lambert. Archts., Richmond.

### Miscellaneous Enterprises

Ala., Berry—J. F. Scofield interested in organizing company to manufacture patented program clock. (See Machinery Wanted—Clock Parts.)

Ala., Mobile—Bender Welding and Machine Co., capital \$50,000, incorporated by T. T. Bender, John J. McCafferty and others.

Ala., Montgomery—Belle-Meade Creamery Co. of Nashville, Tenn., will erect plant on Coosa St. for butter factory; brick; 1-story; capacity 1,000,000 lbs. butter annually; cost about \$40,000 with equipment; C. H. Harkins, Mgr.; building will be erected by W. M. Teague.

Ala., Opp—Benton Hotel Co., capital \$40,000, incorporated by Geo. C. Benton, E. E. Kelly and others.

Ark., Fort Smith—Fort Smith Chemical Co., increased capital from \$3000 to \$7500.

Ark., Little Rock—A. B. Gerlach and Sam Bittles will erect sand plant.

Fla., Cocoa—Oleander Point Corporation, capital \$80,000, incorporated with Russell A. Field, Pres.; A. L. Wooten, Sec.-Treas.

Fla., Gainesville—Stone Homes Process, capital \$100,000, incorporated with B. F. Williamson, Pres.; L. B. McLeod, Sec.

Fla., Jacksonville—Clements Medicine Co., capital \$100,000, incorporated with F. E. Layton, Pres.; John Eaton, Sec.-Treas.

Fla., Jacksonville—Southern Soap Co. W. A. Evans, Pres., has plant and invites bids for machinery for manufacturing paste and bar soap and powder from 8 to 10 tons capacity, cost \$30,000 to \$40,000, also boiler, kettles and tanks. (See Machinery Wanted—Soap Plant Equipment; Boiler; Kettles; Tanks.)

Fla., Jacksonville—United Independent Laundries, incorporated with G. G. Dockrell, Pres.; J. A. Harding, Sec.-Treas.

Fla., Lakeland—Peoples Battery Service, incorporated with T. Olin Charles, Pres.; Hardt T. Womack, Sec.

Fla., Miami—Chase's Laboratories, capital \$10,000, incorporated with G. M. Dykes, Pres.; N. W. Chase, Sec.

Fla., Palm Beach—Campbell Building Co., capital \$125,000, incorporated by J. R. Anthony, J. H. Scott and others.

Fla., St. Petersburg—Rutland-King Co.,

capital \$20,000, incorporated with D. E. King, Pres.; Herbert Rutland, Sec.

Fla., St. Petersburg—C. C. Carr Advertising Agency, capital \$100,000, incorporated with C. C. Carr, Pres.; Etta Klima, Sec.

Fla., Tampa—Franklin Printing Co., will erect fireproof building on Tampa St. and Henderson Ave.; increased capital from \$25,000 to \$75,000.

Fla., West Palm Beach—Fire Fighting Equipment—Details under Miscellaneous Construction.

Fla., Williston—Morton Plow Co., capital \$125,000, incorporated with L. C. Hester, Pres.; Ben W. Morton, Sec.

Ga., Augusta—Culley & Hair, capital \$9000, incorporated by E. L. Stelling, C. M. Hair, D. H. Culley.

Ga., Moultrie—Chamber of Commerce interested in establishment of broom factory. (See Machinery Wanted—Broom Factory.)

Ky., Louisville—Inland Miller Publishing Co., incorporated by W. E. Damon, D. B. J. Rose, J. W. Norwood.

Ky., Louisville—Walker Bag Co., capital \$100,000, incorporated by J. S. Walker, William Will and others.

Ky., Louisville—Ohio Valley Electric Co., William Reinecke, Pres., increased capital from \$30,000 to \$60,000.

Ky., Owensboro—Smith-Beall Construction Co., capital \$25,000, incorporated by H. D. Smith, J. A. Beall and others.

Ky., Owensesboro—Smith-Bell Construction Co., capital \$25,000, incorporated by H. D. and Florence Smith and J. A. Beall.

Ky., Whitesburg—Orphanage—Kentucky Memorial Orphanage, incorporated by J. R. Peters, W. E. Cook, J. M. Day.

La., Monroe—Monroe Wholesale Drug Co., capital \$50,000, incorporated with E. G. Sugar, Pres.; P. L. Rosenheim, V. P.

La., Monroe—Ark-La. Navigation Co., Camden, Ark., A. Felsenthal, Pres.; Jas. C. Wright, Sec., both of Camden, Ark.; will construct five steel barges, cost \$20,000 each; capacity 250 tons each.

Md., Baltimore—Central Transfer Company, 328 No. Front St., incorporated by Jos. C. and Harry Hoffberger and others.

Md., Hagerstown—National Motion Advertising Co., Washington Bldg., capital \$10,000, incorporated by Benj. W. Bilmire, Ernest J. Newcomer and others.

Mo., Jefferson City—Endicott Johnson Corp., incorporated by M. E. Page, J. E. Paden, J. L. Gagnon; manufacture leather boots, etc.

Mo., Kansas City—Arbogast System Heating Co., capital \$20,000, incorporated by C. E. Watkins, D. W. and N. N. Arbogast.

Mo., Kansas City—Baxter Advertising Co., capital \$30,000, incorporated by J. F. Baxter, D. D. Davis and others.

Mo., Kansas City—Thomas Metal Products Co., capital \$30,000, incorporated by C. H. Thomas, T. W. Southard, W. H. Reed.

Mo., Kansas City—Peerless Oil Burner Co., incorporated by E. W. Mahan, C. W. Ashbaugh and others; manufacture oil-burning cooking appliances, etc.

Mo., Kansas City—E. A. Warner Co., incorporated by E. A. Warner, L. E. Smith, Jr., and others.

Mo., Kansas City—Kaw Boiler Works Co., incorporated by E. L. Hudson, F. G. Palmer, G. C. Smith; erect oil refineries, tanks, etc.

Mo., St. Louis—Fred W. Mears Heel Co., capital \$50,000, incorporated by F. W. Mears, H. S. Hubbell, L. A. Coolidge.

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## MANUFACTURERS RECORD.

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Mo., St. Louis—Superior Insulating Tape Co., capital \$25,000, incorporated by J. A. Schweig, A. M. Freund, E. Olson; manufacture rubber and tape.

Mo., St. Louis—Schramm Mfg. Co., capital \$50,000, incorporated by A. O. Schramm, F. M. Horton, H. W. Manley.

Mo., St. Louis—St. Louis Coffin Co. has site and will erect 2 story addition; cost \$50,000.

Mo., St. Louis—Beds—Smith-Davis Mfg. Co. has acquired 11-acre tract and will erect plant for manufacturing brass and steel beds, couches, etc.; cost about \$500,000.

Mo., St. Louis—Master Furnace Co., capital \$10,000, incorporated by J. C. Wilson, J. F. Gillespie, R. E. Gardner.

Mo., St. Louis—Modern Hotel Co., capital \$15,000, incorporated by Jacob Lasky, Jacob and M. N. Shurman.

Mo., Skidmore—Walker Mfg. Co., \$20,000, incorporated by R. A. Walker, B. F. Griffin and others; manufacture oil and gas burners.

Mo., Springfield—Anchor Broom Mfg. Co., J. W. Sanders, Pres., let contract to B. F. Hentschel, Ward House, to erect 125x70 ft. addition to broom plant; all fireproof except roof; cost \$20,000; purchased mchly. (See Mehy. Wanted—Twine; Broom Wire; Handles.)

N. C., Charlotte—Akin Shi-Nail Co., capital \$100,000, incorporated by A. M. Akin, L. W. Wingate and P. F. Stroupe.

N. C., Charlotte—Elizabeth Hoyle Rucker, Inc., capital \$15,000, incorporated by Elizabeth Hoyle Rucker, Helen Hoyle and others.

N. C., Charlotte—Costar Heating & Plumbing Co., capital \$20,000, incorporated by L. B. Costar, L. E. Palmer, C. L. Whaley.

N. C., Greensboro—Hotel Holding Co., capital \$250,000, incorporated by Charles W. Gold, C. C. Hudson, J. B. Harrison.

N. C., New Bern—Craven Contracting Co., capital \$25,000, incorporated by B. F. Williams, G. A. Barden, R. E. Whitehurst.

N. C., Raleigh—Alamance Co-operative Creamery Co., will increase capital to \$65,000.

Oklahoma, Blackwell—Conser Hardware Co., capital \$17,000, incorporated by L. E. and Hazel Green Conser, both Blackwell; C. L. Mize, Atchison, Kan.

Oklahoma, Duncan—Seymour & Laws Co., capital \$35,000, incorporated by W. H. Seymour, H. E. Christian, both Duncan; L. C. Laws, Burkhardt.

Oklahoma, Enid—B. J. & L. Paving Co., capital \$10,000, incorporated by C. J. Burbank, C. D. Jackson, and others.

Oklahoma, Muskogee—Sam L. Millhollon of Sapulpa, Okla., has acquired tract of land and will establish dairy.

Oklahoma, Nardin—Brooks Drug Co., capital \$10,000, incorporated by J. B. Brooks, L. Brooks and others.

Oklahoma, Tulsa—America Amusement Assn., incorporated by J. F. Prothero, J. G. Reichel, O. B. Burrows.

Oklahoma, Tulsa—Lippa & LeBosquet, capital \$15,000, incorporated by Arthur and H. L. Lippa, and J. L. Shoemaker.

S. C., Columbia—Cary-Barber Printing Company let contract to J. C. Heslep of Columbia to construct 3-story, brick plant; Lafayette & Lafaye, Archts.

S. C., Columbia—Carolina Paper Co., Sol Fleischman, Pres., will increase capital from \$20,000 to \$50,000.

S. C., Columbia—Rialto Theater Co., incorporated with Sue E. Lester, Pres. and Treas.; Tressie Pierce, V.-P. and Sec.

S. C., Dillon—Dillon Veterinary Medicine

Co., capital \$30,000, chartered with Wade Stackhouse, Pres., H. J. McCutcheon, Sec-Treas.

S. C., Edgefield—Edgefield Realty & Auction Co., incorporated with S. B. Nicholson, Pres.; O. B. Anderson, Sec.

S. C., Gaffney—Dover-Berry Drug Co., capital \$10,000, incorporated with D. C. Dover Pres.; Frank L. Derry, Sec. and Treas.

S. C., Jonesville—Garner Hardware Co., capital \$10,000, incorporated with F. H. Garner, Pres.; E. M. Garner, Sec.

S. C., Sumter—Typewriter Repairs—W. S. Van Auken Co., incorporated with W. S. Van Auken, Pres. and Treas.; H. H. Van Auken, V.-P. and Sec.

S. C., Union—Mullinaux-Faucett Clothing Co., increased capital from \$10,000 to \$25,000.

Tenn., Chattanooga—Morgan & Kile Drug Co., capital \$10,000, incorporated by John W. Morgan, J. H. McLean and others.

Tenn., Elizabethton—East Tennessee Films Corp., capital \$10,000, organized with Chas. L. Grindstaff, Pres.; E. H. Holly, Sec.-Treas.; Roy E. Butler, Mgr.; will erect 100x100-ft. studio; mill construction; install camera and equipment for producing scenic, dramatic and industrial films.

Tenn., Knoxville—D. A. & B. Tire Tool Co., 214 S. Central St., capital \$25,000, incorporated by G. F. Dallas, T. T. Pace and others; will establish plant.

Tex., Clarksville—Reed & Derryberry Lumber Co., incorporated by J. L. Reed, E. W. Bowers and others.

Tex., Colmesnell—Mercantile & Drug Co., capital \$20,000, incorporated by S. La, J. B. and Annie Mann.

Tex., Dallas—Safe and Bank Vault Protection Co., incorporated by W. B. McShan, R. S. Card, J. P. Hunter.

Tex., Dallas—People's Public Market, capital \$21,000, incorporated by John Siceloff, E. C. Jordan, J. F. Ehrhard.

Tex., Dallas—Handy Pan Co., capital \$50,000, incorporated by M. M. Robertson, G. C. Kennedy and J. H. Ball.

Tex., Eastland—Baume Bros. Inc., capital \$10,000, incorporated by A. H. Baume, J. M. Weaver, R. R. Mizel.

Tex., Ferris—Ferris Brick Co., capital \$500,000, incorporated by W. E. Weatherford, J. A. Carpenter and others.

Tex., Fort Worth—Worth Manufacturing Co., capital \$25,000, incorporated by A. R. Shoemaker, Hubby Diggs, A. E. Thomas.

Tex., Fort Worth—Dunn-Locke Mfg. Co., lately noted incorporated with \$40,000 capital by A. O. Locke and others will erect \$50,000 vinegar plant.

Tex., Galveston—Rosenthal Packing Co. will remodel and enlarge plant; install cold storage machinery; cost \$25,000; J. W. Zempert, Contr.; Stowe and Stowe, Archts.

Tex., Houston—Southwest Printing Plant, incorporated by C. P. Williams, H. V. Ruter and others.

Tex., Mission—Texas Citrus Fruit Growers Exchange, capital \$10,000, incorporated by J. H. Shary, B. E. Keith, J. H. Hickman.

Tex., San Antonio—William A. Burr interested in establishment of plant for manufacture of lead pipes and sheet lead products.

Tex., San Antonio—Merchants Paper Co., capital \$25,000, incorporated by A. C. Busch, T. L. Boren, E. D. Hearne.

Tex., Wichita Falls—Moncrief & Lenoir Mfg. Co., of Houston, Tex., will establish branch plant to manufacture corrugated iron products, tanks, culverts, roofing, etc.

Tex., Wichita Falls—Jondunbar Drilling Co., capital \$10,000, incorporated by Fred W. Bartell, Reg M. Jones and L. J. Duncan.

Va., Ashland—Construction—Herrin-Vaughan Co., capital \$15,000, incorporated with Lonnie B. Perrin, Pres.; S. W. Perrin, Sec.

Va., Clarendon—Bassett Window Shade Equipment Co., incorporated with Fred H. Bassett, Pres., Idylwood, Va.; Chas. R. Taylor, Sec., Clarendon.

Va., Hampton—Abernathy Corp., Harry T. Lewis, V. P., increased capital from \$15,000 to \$40,000.

Va., Norfolk—Norfolk Theatrical Operating Corp., incorporated with Jake Wells, Pres.; Moe Levy, Sec.

Va., Norfolk—The Willis Co., increased capital from \$50,000 to \$100,000.

Va., Norfolk—Norfolk Sugar Refining Co., Inc., (previously noted) organized by Elderidge H. Brooks of New York, J. B. Morgan, Southern Produce Bldg., Norfolk, has secured 26 acres of land at Sewalls' Point and will establish \$3,600,000 sugar refinery; construction by Eastwick Engineering Co., of New York; city proposes to dredge slip 100x700 ft. long.

Va., Richmond—C. W. Ferguson Collar Co., capital \$15,000, incorporated with R. B. Gwathmey, Pres.; A. Taylor Pitt, Sec.

Va., Richmond—Gudger Drug Co., capital \$15,000, incorporated with Jas. E. Gudger, Pres.; A. F. Gudger, Sec.

Va., Richmond—Virginia State Poultry Assn., incorporated with R. H. Thomas, Pres., Dumbarton, Va.; J. M. Andrew, Jr., Sec., Richmond.

Va., Richmond—Valley Poster Advertising Co., capital \$15,000, incorporated with W. V. Workman, Pres.; Ordway Puller, Sec.

Va., Richmond—P. Lorillard Tobacco Co., Danville, Va., will establish branch plant.

Va., Roanoke—American System, Inc., capital \$250,000, chartered with W. H. Moomaw, Pres.; P. L. Hawks, Sec.

Va., Rosslyn—Colonial Printery, incorporated with Earle T. Hutersbaugh, Pres., East Falls Church; S. P. Poindexter, Sec., Washington, D. C.

W. Va., Charleston—Duntile Co., capital \$25,000, incorporated by E. E. Bobbitt, I. C. Sykes, R. O. Newcomb.

W. Va., Mannington—Monongahela Chain & Mfg. Co., Dr. F. W. Vance, Fairmont, W. Va., reported to establish plant.

### MOTOR CARS, GARAGES, TIRES, ETC.

Fla., DeLand—J. H. Tatum let contract to N. N. Jacobs to erect garage on West New York Ave.; 54x125 ft.; brick; building will be occupied by J. E. Fearington of Danville, Va.

Fla., Sarasota—Florida Motor Sales Co., incorporated with Asa Cassidy, Pres., New York; R. B. Curry, Sec.-Treas., Sarasota.

La., New Orleans—Mexican Petroleum Co., will erect 8 filling stations; Spanish architecture; tinted stucco; will install pits for greasing and oiling automobiles; two structures are now under construction; W. E. Linn, in charge.

Mo., Jefferson City—Garage—Byron E. Leslie & Sons will occupy garage building on Commercial Avenue to be erected by Hugh Stephens; fireproof construction; capacity for storage of 48 cars.

Mo., St. Louis—Sabor Hauser Auto Painting Co., incorporated by Martin Sabor, George

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Hauser and others; to refinish automobiles, etc.

Mo., Springfield—K. A. Norris, 474 North Main Ave., will erect automobile service station.

Mo., Wellston—Burkoe Tire & Rubber Co., capital \$80,000, incorporated by C. H. Jarvis, L. B. Phillips and J. M. Satterfield.

N. C., Charlotte—Charles E. Lambeth Motor Co., will erect automobile building, acquired site on East Trade St.

N. C., Charlotte—Etheredge Motor Sales Co. let contract to Lockwood, Greene & Co., Charlotte, to design building; 2 stories; 40,000 sq. ft. of floor space.

N. C., Charlotte—White Motor Co. will occupy garage building to be erected by A. J. Thies; 80x140 ft.; 2 stories; cost \$30,000; F. L. Bonfoey, Archt.

N. C., Winston-Salem—Lindsay Fishel Bulek Co. let contract to Realty Bond Co. to erect salesroom and service station; 2 stories; 56x200 ft.

Okla., Tulsa—Eclipse Garage Co., capital \$10,000, incorporated by W. C. Gustavus, H. L. Weisburgh and others.

S. C., Anderson—Automobile Accessories—Wever Mfg. Co., capital \$10,000, incorporated with F. M. Wever, Pres. and Treas.; W. C. Gilmer, V.P. and Sec.

S. C., Charleston—Mason Tire & Repair Co., capital \$10,000, incorporated with F. E. Condon, Pres. and Treas.; J. P. Condon, V.P. and Sec.

S. C., Ellerbee—Clayton Motor Co., capital \$10,000, incorporated with A. L. Smoak, Pres. and Treas.; J. G. Clayton, Mgr.

Tenn., Nashville—M. B. Automotive Corp., capital \$10,000,000, incorporated with M. Bollstrom, Pres.; Guy Hamilton, V. P.; Martin Soule, Sec.; all Jacksonville, Tenn.; reported to have acquired 10 factory buildings with approximately 100,000 sq. ft.; will manufacture front drive motor coaches, highway buses, trucks and allied products.

Tex., Austin—Charlton & Crockett, Inc., will erect automobile service station at Sixth St. and West Ave.

Tex., Beaumont—Ira Jones Tire & Storage Co., incorporated by Ira Jones, R. A. Judd and others.

Tex., Dalhart—Victor L. Stewart Co., will occupy building to be erected on Rock Island Ave.; 50x140 ft.; brick.

Tex., Goliad—Goliad Auto Co., capital \$10,000, incorporated by R. R. Lemaster, John Von Dehlen and W. H. Stricker.

Tex., San Antonio—Automobile Accessories—Southwestern Rubber Co., Inc., 202 W. Travis St., incorporated with W. G. Colton, Pres.; tire distributors. (Lately noted capital \$25,000.)

Va., Norfolk—Ford Motor Co., Detroit, Mich., will erect assembling plant, has site 44 acres of high land at junction of Virginian Railway and Eastern branch of Elizabeth River, with water, sewerage, gas and electric connections, and will erect plant of 2 assembling units in rotation each 350x750 ft.; brick; 5 stories; with warehouse 350x500 ft. with slip for shipping 500x150 ft. wide and 25 ft. deep; with railway sidings to take care of 400 cars for both merchandise and export coal on 30 ft. of water and concrete boulevard; will begin construction work in about 10 days; employ 300 men for construction and 1000 to operate plant; capacity 300 cars per day. (Lately noted.)

Va., Radford—Radford Motor Co., Inc., J. F. Drugan, Sec., will erect fireproof garage 50x100 ft.; Huth Wharton, Archt.; W. H. Painter, Contr.; machinery purchased. (Lately noted.)

Va., Richmond—Pocahontas Motors, capital \$40,000, incorporated with H. S. Burnett, Pres.; R. H. Walker, Sec.

### Railways

Ala., Birmingham—Alabama Power Co. has let contract to C. B. Cox, of Clanton, Ala., to grade a railroad from Asberry Station on the Birmingham & Southeastern Railroad to the site of the proposed dam at Cherokee Bluffs, a distance of 6 mi. the line to be used to carry material for the dam. The company's forces will build the track. O. G. Thurlow is chief engineer.

N. C., Ahoskie—Wellington & Powellsville Railroad Co. contemplates an extension from Windsor, N. C., to Roanoke River, 7 mi.; also an extension from Ahoskie via Union and Murfreesboro to Pendleton, N. C., 19 mi.; also conversion of entire line to standard gauge. J. A. Pretlow, Franklin, Va., is Pres. & Gen. Mgr.

### Road and Street Construction

Ala., Alabama City—City let contract to Lasley Bros., Chattanooga, Tenn., at \$75,571.30 to pave Forest Ave. and Wall St. with asphalt.

Ala., Birmingham—City plans paving with 5-in. concrete base with 2 or 2½-in. bituminous surface, Third Ave., South from Fourteenth to Twentieth streets; estimated cost \$60,000; Fourteenth street, south from Third to Sixth Aves.; estimated cost \$20,250. Also plans laying sidewalks, curbs and gutters and macadamizing Sixth Ave., South from Seventy-Ninth to Eightieth streets and on Eightieth St. from Sixth to Seventh Aves.

Ala., Montgomery—State Highway Comm. let contracts for 4 road projects as follows: 22.79 mi. gravel road in Walker County, to Stanley and Singer Construction Co., Lafayette, Ala., at \$515,982.68; 10.75 mi. gravel road in Perry County, Stanley and Singer Construction Co., at \$157,710.00; 16.25 mi. chert road in Blount County to W. C. Hill at \$127,264.45; Etowah County Commissioners, Gadsden, for building 2.35 mi. concrete road in Etowah county at \$62,786.98.

Ark., Little Rock—Commrs. Street Improvement District No. 340 receives bids until July 31 for the paving of annex to the district which includes Broadway from 10th St. to 22nd St.; Contract No. 1, excavation, storm sewers, catch basins, manholes and all curb work, estimated cost, \$25,000; Contract No. 2, concrete base and concrete gutters, estimated cost \$40,000; Contract No. 3, asphalt wearing surface, estimated cost, \$25,000; also receives bids until July 31, which includes grading, draining and paving Broadway from Markham to 10th St.; Contract No. 1, excavation, storm sewers, sanitary sewers, catch basins, manholes and all curb work, estimated cost \$40,000; Contract No. 2, concrete base and concrete gutters, estimated cost \$30,000; Contract No. 3, asphalt wearing surface, estimated cost \$25,000. Alfred M. Lund, Engr., 527 Southern Trust Bldg., Little Rock, Ark.

D. C., Washington—Commrs. will receive bids until August 3 for approximately 32,700 cu. yds. of grading. Address Commrs., Room 427, District Bldg., Washington, D. C.

Fla., Boynton—Details under Water-Works.

Fla., Daytona—Details under Sewer Construction.

Fla., DeLand—Volusia County plans building 10 mi. hard surfaced road from Lake Helen to Osteen, and St. Johns River bridge at Osteen; voted \$110,000 bonds. Address County Commrs.

Fla., Fort Pierce—St. Lucie County plans

improving highways; voted \$50,000 warrants. Address County Commrs.

Fla., Hollywood—Details under Land Developments.

Fla., Jacksonville—Details under Land Developments.

Fla., Key West—Monroe County Commrs. plan building overseas highway from mainland to Key West; contemplate \$300,000 bond issue.

Fla., Lake Worth—City plans widening J St.; contemplates \$20,000 bond issue. Address The Mayor.

Fla., Leesburg—City plans street paving, including Canal, Dozier, 9th, 6th, 2nd, Magnolia, Line, etc.; voted \$75,000 bonds. Address The Mayor.

Fla., Marianna—City will pave sidewalks on nineteen streets. Address The Mayor.

Fla., Pahokee—Details under Water-Works.

Fla., St. Petersburg—City will widen Beach drive to 60 ft. Also plans to widen paving on the north mole from Beach drive to the recreation pier.

Fla., Sanford—Seminole county will surface with asphalt or other hard surfaced material, the Sanford-Orlando road.

Fla., Tampa—City plans paving 25 blocks as follows:

Five blocks on Lake Ave., from Nebraska Ave. to Twelfth street, two blocks on North Tampania street from Grand Central to North B street, fifteen between Twenty-first Ave. on Cambell Ave., one block on Branch Ave. from Wilder Ave. to Fifty-second Ave. and two blocks between Nebraska Ave. and Arthur street on Nordica.

Ga., Albany—Dougherty county let contract to Ely Construction Co., Augusta, Ga., for paving the remainder of the Dixie Highway south of Albany.

Ky., Frankfort—State Highway Comm. will receive bids until August 29 for 3 road projects as follows:

Federal Aid No. 103, Perry County, 2.646 mi. Hazard-Jackson road from Hazard sta. 0 plus 00; to mouth of Lotts Creek, sta. 158 plus 00; Perry County, Federal Aid No. 104, 3.996 mi. Hazard-Whitesburg road from end of Federal Aid No. 81 Sta. 137 plus 00 to Jaff Sta. 348 plus 00; Larue County, Federal Aid No. 107, 5.409 mi. Hodgenville-Glasgow road from city limits of Hodgeville to Nolan river bridge. State Highway Engr., Old Capitol Building, Frankfort, Ky.

Ky., Frankfort—State Highway Dept., Frankfort received low bids for 26 road projects as follows: Henry, Trimble and Carroll counties, State Project 46 A, river gravel, Ellie and Smeathers, Owensboro, Ky. at \$271,123.94; Henry Trimble and Carroll counties, State Project 46 A, surfacing treatment using oil, Breslin and Durrett, Louisville, Ky. \$12,520.43; Oldham county, State Project 19 A, river gravel, Moynahan and Turner, Lexington, Ky., \$69,634.75.

Oldham county, State Project 19 A, surface treatment using oil, R. B. Tyler and Co., \$3806.39; Clinton county, State Project 27 A, water bound macadam, Huff and Smith, Albany, Ky., \$51,465.93; Whitley county, State Project 350, 3.69 mi. Williamsburg-Corbin road from Williamsburg to Wofford, resurface using medium tar and stone chips, Breslin and Durrett, Louisville, Ky., \$2772.36.

Larue and Hart counties. State Projects 3 F and 3 G, 6.407 mi. Jackson highway road from Buffalo to Hart county line and 1.865 Jackson highway road from 2 mi. south of Larue county line to Pike View, resurface using medium tar and pea gravel.

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R. B. Tyler and Co., Louisville, Ky., Madison county, State Project 50 C and 5 K, 4.67 mi. Richmond-Winchester road from Stone's Run to Kentucky River, resurface using medium tar and pea gravel, Southern Oil and Tar Co., Louisville, Ky., \$7860.81. Boyle county, State Project 25 C, 2 sections, 4.5 mi. Danville-Perryville road, from city limits of Danville 1 mi. west, and from Salt River to Perryville, resurface using medium tar and pea gravel, Southern Oil and Tar Co., Louisville, Ky., \$1914.95; Hart county, State Project 11-M, 6.67 mi. Western Dixie highway from Munfordsville to Bonniville, resurface using heavy oil and stone chips, R. B. Tyler and Co., Louisville, Ky., \$4054.30.

Todd county, State Project 1 J, 4.34 mi. Elkton-Hopkinsville road, from Christian county east, resurface using heavy oil and stone chips, Eaton Oil Works, Cincinnati, Ohio, \$3195.19; Fayette county State Project 5 I-1 and I-3, 8.32 mi. Lexington-Richmond road from 4.78 mi. south of city limits of Lexington to near toll gate at Kentucky river, resurface using medium tar and stone chips, R. B. Tyler and Co., Louisville, Ky., \$8715.92.

Greenup county, State Project 20 R, 1.5 mi. Cattlesburg-Greenup road, from city limits of Russel to city limits of Chinaville, resurface using medium tar and stone chips, R. B. Tyler and Co., Louisville, Ky., \$1223.50.

Harrison county, State Project 21 E, 916 mi. Falmouth-Cynthiana road from Pendleton county line south, resurface using heavy oil and stone chips, Eaton Oil Works, Cincinnati, Ohio, \$6570.95.

Nicholas county, State Project 61 A-1, 4.3 mi. Carlisle-Sharsburg road, from city limits of Carlisle to Moorehead, resurface using light tar, Eaton Oil Works, Cincinnati, Ohio, \$1893.16; Hardin and Jefferson counties, State Project 8 B and 8 A-1, 2.7 mi. Louisville-Paducah road from Salt River bridge to Camp Knox reservation and Louisville-Paducah road, from overhead crossing of I. C. R. R. to Salt River bridge, resurfacing using medium tar and pea gravel, Southern Oil and Tar Co., Louisville, Ky., \$3268.87.

Scott county, State Project 17 F and 5 F, 3.7 mi. Frankfort-Georgetown road, from Georgetown west and 3.2 mi. Georgetown-Williamstown road from Georgetown north, resurface using heavy oil and stone chips, R. B. Tyler, Louisville, Ky., \$5863.18; Scott county, State Project 58½ A-1, 3.2 mi. Georgetown-Cynthiana road from Oxford to Harrison county line, resurface using medium tar and pea gravel, Eaton Oil Works, Cincinnati, Ohio, \$1972.71.

Owen county, State Project 49 C and 19 D, 8 mi. Owenton-Warsaw road from Owenton to Bromley and 8 mi. from Owenton to Gratz; Garrard county, State Project 25 F-1, 6.1 mi. Lancaster-Richmond road, from Sta. 254 plus 00 to Madison county line, waterbound macadam reconstruction, E. E. Price, Lexington, Ky., \$47,403.79.

Jessamine county, State Project 23 A-1, 5.4 mi. Nicholasville-Lexington road from Nicholasville to Fayette county line waterbound macadam reconstruction, J. H. Hostetter, Lexington, Ky., \$34,044.20; Shelby county, State Project 17 C, 6 mi. Louisville-Frankfort road, from Buzzard Roost Bridge, grade and drain, Breslin and Durrett, Louisville, Ky., \$4955.

Ky., Georgetown—Town let contract to Vastine and Johnston, for paving of Military and south Hamilton streets.

Ky., Henderson—City let contract to Anderson Asphalt Paving Co., Hamilton, Ohio, at \$174,500 for paving with sheet asphalt and Warrenite Bitulithic on 6-in. concrete

foundation, Main, Green, Elm and Washington streets.

Ky., Paintsville—City will receive bids until August 7 for improvement of Stafford, Frank and Preston streets with Kentucky Rock Asphalt or cement concrete. R. C. Thomas, Mayor.

Louisiana—Louisiana Highway Comm., Raymond Bldg., Baton Rouge, La., will receive bids until August 14 for 9.555 mi. Minden-Shreveport highway, Federal Aid Project 116, Section A, Webster parish including grading, draining, concrete culverts and gravel surfacing. J. M. Fourmy, State Highway Engr., Baton Rouge.

La., Abbeville—Vermillion Parish will receive bids until August 18 for building approximately 11.5 mi. gravel road in Road District No. 2. Address Rom. P. LeBlanc, Sec. Police Jury, Abbeville.

La., Alexandria—For full details see Sewer Construction.

La., Baton Rouge—Louisiana Highway Comm. let contracts for the following projects: Tangipahoa river bridge of Hammond-Covington highway, A. E. Perry, Monroe, La., at \$37,648; 8.536 mi. Hammond-Covington highway, Lower Coast Construction Co., at \$39,877.59; .622 mi. Plaquemine-Donaldsonville highway. Leboeuf & Earle; .72 mi. Donaldsonville-Gretna Highway, H. M. Weber, Thibodaux, La.

Maryland—State Roads Comm., 601 Garrett Bldg., Baltimore, Md., will receive bids until August 7, for building 1 mi. of concrete highway between Jarrettsville toward Federal Hill in Harford county, Contract H-32. John N. Mackall, Chmn. Roads Comm.

Md., Baltimore—City let contracts for paving with cement concrete Footway Contract No. 66 to Max B. Muller, Baltimore, Md., and Footway Contract No. 67 to Bell Concrete Co., Baltimore, Md.

Md., Baltimore—State Roads Comm., 601 Garrett Building, Baltimore, Md., will receive bids until August 14 for building 4 sections of roads as follows:

Howard County, one mi. of concrete state highway from the Frederick Pike at Linton toward Florence, Contract No. 31; Howard, one mi. concrete state highway from the Frederick Pike at Cooksville toward Hoods Mill, Contract No. 40; Howard County, one mi. concrete state highway from the Frederick pike near Ellicott City along Rogers Ave. toward Jonestown; Howard County, one mi. Macadam-Pen. Method state highway from Guilford toward Atholton, Contract No. 34; John N. Mackall, Chmn.

Md., Frostburg—City let contract to Tri-State Engr. Co., Cumberland, Md., at \$16,000 for paving West Union St.

Md., Hyattsville—Town plans building of concrete roadway and sidewalk on the south side of Littlefield Ave. Address The Mayor.

Miss., Belzoni—The Highway Commrs. of Northern Separate Road District No. 1 of Humphreys county will receive bids until August 6 for improving and building 11.01 mi. roads including 9.56 mi. common machine grading, 28,905 cu. yds. borrow excavation, 17,218 cu. yds. road gravel furnished, hauled and placed, 146,267 units. cu. yds. overhauled and placed. A. R. Hutchens, Clerk of Board of Supervisors, Belzoni, Miss.

Miss., Greenwood—Details under Sewer Construction.

Miss., Meridian—State Highway Dept. will receive bids August 14 for building of 5 mi. gravel road between Meridian and Vimville, in Lauderdale County, Federal Aid Project

158. Address Lauderdale Board of Supervisors, Meridian.

Mo., Bloomfield—Stoddard County, New Lisbon Township will build road; votes July 31 on \$70,000 bonds. Address County Comr.

Mo., Butler—City will receive bid for paving Delaware St. from Ohio to Mill streets and Pine from Main to Fulton streets.

Mo., Independence—City plans paving Cotage from Pacific to South Ave. Address The Mayor.

Mo., Jefferson City—Details under Land Development.

Mo., Jefferson City—Missouri Highway Comm. let contracts for building 5 road projects as follows:

State Project, Route 94, Sec. 5, St. Charles County, 2.735 mi. gravel road from St. Charles to West Alton, J. P. Sparks, Kirkwood, Mo., at \$18,678; State Project, Route 63-A, Ralls County, 2.472 mi. gravel road from New London, West, F. F. O'Dell, Center, Mo., at \$27,065.85; State Project, Route 8, Sec. 69, Marion County, 5 mi. grade earth road from Hannibal to West Ely, to J. C. Lyle, Kansas City, Mo., at \$30,498.81; State Project, Route 25, Sec. 16, Perry County, 2.443 mi. road from Perryville south, to Kiefner & Gelle, Perryville, Mo., at \$27,132.92; State Project, Route 22, Sec. 18, Pike County, 2.047 mi. gravel surface road from Bowling Green to Mexico, F. F. O'Dell, Center, Mo., at \$25,158.22.

Mo., Maryville—City plans paving with brick West Third, Grand and Fourth streets. Address The Mayor.

Mo., Otterville—Town plans building road; voted \$10,000 bonds. Address The Mayor.

Mo., St. Joseph—City let contract to Land Construction Co., for resurfacing LaFayette street from Sixteenth to Twenty-eighth Sts., with asphaltic concrete.

Mo., St. Louis—City will receive bids until August 14 for resurfacing Lucas Ave. from Fourteenth street to Leffingwell Ave. Plans at office of President, Board of Public Service, Room 300, City Hall.

Mo., St. Louis—City will receive bids until August 7 for furnishing materials and grading, draining and surfacing roadway and installing water pipe along private right of way extending from Hog Hollow road to the site of new water-works at Howard Bend. Plans at office of Water Comm. Dept. of Public Utilities, Room 312, City Hall.

N. C., Troy—Town let contract to W. F. Bowe, Augusta, Ga., for paving principal streets of town.

Okl., Oklahoma City—City plans paving driveway in front of bathhouse in Lincoln Park with "Harjo" gravel, 6-in. with a half-inch binder of asphalt. Address Joe H. Patterson, Comr. of Public Property.

Okl., Rogers—City and Claymore County plan building 80 mi. hard surfaced roads, one of road projects would connect city with the Tulsa County main road at the county line; estimated cost \$1,000,000.

S. C., Edgefield—Edgefield county let contract to B. A. Havird & Co., Newberry, S. C. at \$31,981.36 for building 9.047 mi. State Road, Route 39, between city limits of Edgefield and the Saluda county line.

S. C., Fort Mill—City plans street improvement; will vote Aug. 21 on \$15,000 bonds. Address The Mayor.

S. C., Greenville—Greenville County plans paving 9 road projects; 4.7 mi. Piedmont

Highway from Jones store to Mauldin; 7 mi. National Highway connecting pavements between Greenville and Greer; 2 mi. Augusta road from present pavement to intersection of Fork Shoals road; 2.5 mi. Piedmont road from city limits on Green Ave. through Duane Mills to Gantt; 2 mi. Easley road through Judson Mills from city limits; 3.6 mi. Buncombe road from pavement to Travelers Rest; 1.5 mi. Old Spartanburg road from city limits to McCarter's shop; Paris Mountain road from city limits approximately one mile out; Buncombe road from P. & N. tracks near Poe Mill to Franklin road in Sans Souci, including widening and rebuilding, eighteenth of a mile; \$600,000 bond issue voted. Address County Commsrs.

S. C., Moncks Corner—Berkley county let contract to John Richardson, at \$22,298.89 for 5.716 mi. State Project, Route 41, between Biggin Church and Bonneau, construct drainage structures and sand clay surfacing.

S. C., Walterboro—Colleton County will receive bids until August 9 for 2 sections road 10,382 mi. from city limits of Walterboro as follows: State Route No. 30, Section A, toward Yemassee, 26,548 cu. yds. sand clay surfacing; State Route No. 30, Section B, 5,928 mi. from Section A to Collins Cross Roads, 14,487 cu. yds. sand clay surfacing. W. C. Cathey, Division Engr., Scoville Bldg., Orangeburg, S. C.

S. C., York—York County plans paving 3 roads as follows: East and West Road from Smyrna on the Cherokee line to the Lancaster line; the North and South road from North Carolina line near Bowling Green to the Chester line in the vicinity of Lowryville; between the North Carolina line near Pineville and Chester line near Smith's turnout; will vote \$2,000,000 bond issue on September 18.

Tenn., Greeneville—Details under Water-Works.

Tenn., Knoxville—City let contract to Murray Construction Co., Knoxville, for paving Market street from Wall to Vine Ave., part of Gratz St. and Sixth Ave.

Tenn., Knoxville—Knox County let contracts for 4 road projects: 4 mi. road from Fountain City to Hall's Cross roads, Crippen Construction Co., Knoxville, \$16,694.92; two prongs Concord pike running to the Loudon County line, Prater's Ferry road, and Concord-Smith road to Haynes Construction Co., Boston, Mass., at \$27,997.81.

Tex., Angleton—Brazoria County will receive bids within next thirty days for building of shell surfaced road on State Highway No. 19. J. T. Loggins.

Tex., Beaumont—City let contract to Houston Construction Co., Houston, Tex., at approximately \$40,000 for re-paving on Park, Forsythe and Crockett Sts. and Railroad Ave.

Tex., Bonham—Fannin County will soon receive bids for building of 7.35 mi. 18 ft. Bates section, concrete road on State Highway No. 5 in Windon road district No. 23 in Fannin county; estimated cost \$290,000. Pinckney B. Price, Engrs. Honey Grove, Tex. and S. E. Neilson, County Judge, Bonham, Tex.

Tex., Brady—McCulloch county plans building State Highway No. 9 between Brady and the Mason county line; estimated cost \$55,000. State aid, granted, \$35,000. E. A. Burrow, County Engr. and Wm. S. Cargill, Secy. Chamber of Commerce, Brady, Tex.

Tex., Clebourne—Johnson County plans completing 5 mi. road between Clebourne and Alvarado. Address County Commsrs.

Tex., Colorado—Chief Engr., U. S. Bureau of Public Roads, Washington, D. C., approved plans for construction of 75 ft. extension of

Lone Wolfe creek bridge on State Highway No. 1, in Mitchell county; estimated cost \$29,717.98, Federal Aid, \$9975.70. Frank F. DuBose County Engr. and J. C. Hall, County Judge, Colorado, Tex.

Tex., Dallas—Details under Land Developments.

Tex., Denton—Denton County plans to complete the East and West Highway by building 13 mi. section of State Highway No. 39. H. T. Brewster, county Engr., and A. Logan, County Judge, Denton, Tex.

Tex., Falfurries—Brooks County received low bid from W. W. Vann, Mercedes, Tex., at \$70,614.20 for grading and surfacing with gravel, 10.07 mi. State Highway No. 12.

Tex., Fort Worth—Details under Land Developments.

Tex., Galveston—City plans paving Twenty-fifth St.; \$100,000 bond issue available.

Tex., Georgetown—Williamson County will construct highway to Georgetown; \$30,000 bonds voted in Florence. Address County Commsrs.

Tex., Grovebeck—Limestone county will receive bids until August 3 for building 8 mi. bituminous macadam pavement on the Exall Highway. J. G. McIntosh, Engr., care Humphreys Oil Co., Mexia, Tex.

Tex., Hillsboro—City let contract to Hannan Construction Co., Waco, Tex., at \$12,268.98 to grade, construct retaining wall and gravel surface .55 mi. State Highway No. 6.

Tex., Hondo—Medina county will receive bids on or about August 24 for building of .56 mi. 18 ft. bituminous macadam road on State Highway No. 3, estimated cost \$38,800. A. Y. Walton, county engr., Hondo, Tex. and R. J. Noonan, county judge.

Tex., Laredo—City plans finishing street paving; \$200,000 bond issue voted. Address The Mayor.

Tex., Laredo—Webb County plan surfacing with bituminous topping three highways; will vote Aug. 25 on \$250,000 bonds. Address County Commsrs.

Tex., Newton—Newton county will receive bids in near future for building of 20.94 mi. 16 ft. gravel road on State Highway No. 7; estimated cost approximately \$225,000. V. O. Ellis, County Engr., Newton, Tex.

Tex., Orange—Orange County Commsrs. will receive bids for building of .11 mi. 18 ft. concrete paved road on State Highway No. 3, estimated cost \$8500. J. E. Johnson, County Engr. and E. M. Carver, County Judge, Orange, Tex.

Tex., Palo Pinto—Palo Pinto County will build brick highway from the Parker County line to Mineral Wells. E. L. Pitts, County Judge, Guy Courter, County Engr.

Tex., Paris—Lamar county will receive bids until August 28 (tentative) for building of 2.54 mi. concrete paved road on state Highway No. 5. Estimated cost \$75,000. W. M. Fooshee, County Engr., Paris, Tex.

Tex., Pittsburgh—Camp county will receive bids until August 30 (tentative) for building 6.2 mi. 18 ft. bituminous macadam road on State Highway No. 11; estimated cost \$160,000. Chas. Chappell, County Engr., Pittsburgh, Tex.

Tex., Roscoe—City plans paving Bankhead Highway. Montgomery & Ward, Consulting Engrs., Wichita Falls, Tex.

Tex., Sulphur Springs—Hopkins County, Road Dist. No. 8, plans building Bankhead Highway; contemplates voting on \$564,000 bonds; R. E. Bertram, County Judge.

Tex., Temple—City receives bid until July 30 for 8066 cu. yds. street paving including 3190 lin. ft. concrete curb; 1333 cu. yds. 3 in. vitrified brick on concrete base and 1333

cu. yds. either brick or concrete. H. J. Graeser, City Mgr.

Tex., Vernon—Wilbarger county will receive bids on or about August 22 for paving 2.25 mi. section State Highway No. 5 with concrete pavement; estimated cost approximately \$75,000. John B. Nabors, County Engr., Vernon, Tex.

Va., Bristol—City receives bids until August 2 for laying of approximately 16,000 sq. yds. of asphalt paving on concrete base, 10,000 lin. ft. curb and gutter, 5000 lin. ft. terra cotta sewer, 2500 cu. yds. grading, catch basins and man holes. S. G. Keller, City Manager.

Va., Petersburg—City receives bids until August 1 for laying 2650 tons of asphalt payment mixture to cover approximately 30,000 sq. yds. of area on Sycamore street from Bollingbrook St. to Wythe St. and Washington street from Sycamore to Chappell Sts. Address City Manager, Louis Brownlow, Courthouse, Petersburg, Va.

Va., Portsmouth—Portsmouth, Chuckatuck and Smithfield Bridge Corp., capital \$100,000, incorporated with Chas. R. Welton, Pres., J. Davis Reed, Sec. and Z. H. Powell; to maintain a toll bridge and turnpike in the county of Nansemond.

Va., Princess Anne—Princess Anne county will receive bids until August 24 for building 6 roads as follows: A—Great Neck road between District line and London bridge station; B—Great Neck road between London bridge station and Broad Bay; C—Mapleton road between State Road No. 10 and Seaboard District line; D—Oceana road between Oceana station and Mill Dam Hill; E—Little Neck road between State road No. 10 and W. C. Hill's place; Plans of the Office of the Commonwealth Attorney, E. J. Smith, National Bank Bldg., Norfolk, Va.

Va., Richmond—State Highway Dept., 413 No. 10th St., Richmond, Va., will receive bids until August 21 for 3 road projects as follows: Project S-263 Route 114, 8.7 mi. Hasi-Moss road in Dickenson County, grading and drainage; Project F-276 route 39, Louisa and Albemarle counties 9.9 mi. 18 ft. 8 in. Bituminous Macadam; Project S-328 route 39, 1.8 mi. Pheobuh-Buckroe road, Elizabeth City county. H. C. Shirley, Chmn.

Va., Richmond—State Highway Comm. received low bids on 7 road projects as follows: Project F-257, Route 39, 10.66 mi. gravel roadway from Providence Forge to Bottoms Bridge on the Richmond-Newport News highway, Van Doren Brothers, Richmond, \$114,550.57; Project S-318, Route 30, 6.27 mi. soil highway from King William Court-house to Sharon Church in King William County, C. H. Oliver, Doswell, Va., \$50,979.79; Project F-184, Route 32, 2.10 mi. bituminous macadam roadway from Elkhorn to Remington in Faquier County, Lynchburg Construction Co., Warrenton, Va., \$50,446.28.

Project F-265-B, Route 111, 6.17 mi. from Brundt to Hanger, roadway extension in Buchanan County, Waugh and Longley, Bluefield, W. Va., \$140,874.95; Project S-314, Route 21, Fairfax County, 1.41 mi. from Falls Church to Halls Hill, Cranford Paving Co., Washington, D. C., \$4726.10; Project S-223, Route 10, Scott County, 2.7 mi. grading from Clinchfort to Natural Tunnel, V. E. Cornett, Independence, Va., \$66,839; Project S-131, Route 11, Wise County, 1.57 mi. concrete roadway from Big Stone Gap to Norton, R. H. Bolling, Norton, Va., \$73,890.07.

Va., Suffolk—City plans street improvements; will expend \$60,000. Address the City Manager.

W. Va., Bluefield—City will receive bids

until August 14 for following paving projects: No. 1, resurfacing over brick approximately 12,000 sq. yds. all types of asphalt; No. 2, grading, curbing and foundation work on approximately 12,000 paving; No. 3, surfacing the paving in No. 2; No. 4, paving approximately 4200 lin. ft. of street railway tracks. Clarence E. Ridley, City Manager.

W. Va., Charleston—State Road Comm. received low bids on 11 road projects as follows:

Projects 3261 and 50, Clay County, south end Clay court house and Two-Mile run road, grading, draining and paving with bituminous macadam, together with sewers to be installed by town, A. Keathley, Charleston, W. Va., \$100,931.50; Project 3186, Preston County, 5 mi. Thomas-Greg Church road, grading, draining and paving with cement concrete, J. M. Randich, Huntington, W. Va., \$213,632.50.

Project 3013, Hardy County, 5.8 mi. Old-fields-Hampshire County line road, completion of grading, draining and paving with waterbound macadam, Chandler & Armstrong, Moorefield, W. Va., \$112,579.07; Project 3253, Hancock County, 3 mi. brick on river road from Brooke County line to Kings creek bridge, Kane Brothers, Youngstown, Ohio, \$125,419.80; Project 3187-B, Tyler County, 1.5 mi. Sistersville-Middlebourne road, grading, draining, and paving with waterbound macadam, Pipes & Johnson, Middlebourne, Va., \$45,236.58.

Project 3114, B and D, Brooks County, 1 mi. river road paving with cement concrete, Ben C. Stringer, Rayland, Ohio, \$98,917.46; Project 3089, Hancock County, 1 mi. river road, paving with brick, Kane Brothers, Youngstown, Ohio, \$52,429.35; Project 3252-A, Pleasants County, 1.2 mi. St. Marys-Ellenboro road, grading and cement paving, Cisler & Morse, Marietta, Ohio, \$52,350.50; Project 3237, Mason County, 3.5 mi. Lewis district toward Leon road, grading and draining, Skene & Co., Pt. Pleasant, W. Va., \$41,182.

Project 3151-C and 48, Boone County, 2 mi. Madison-Danville road, grading, draining and paving with bituminous macadam, Abbott Brothers, Charleston, W. Va., oil, \$50,850, Bermuda, \$53,750; Project 3287, Cabell County, one and two-thirds mi. of Huntington-Hodges road, grading, draining and paving with cement concrete, George L. Pence, Huntington, W. Va., \$56,979.

W. Va., Huntington—City let contracts for paving projects as follows:

Thirty-first road to Amos Trainer, Huntington, at \$21,700; Fifth Street to Duncan and Griffith; Marion Court, from Seventh Ave. to Six and one-half alley, Eighth Street, west from Third to Fourth Ave., Six and one-half alley from First to Division Street, and South High Street from the Baltimore & Ohio right-of-way to the corporation limit, to J. A. Griffith.

W. Va., Huntington—City plans paving Sixth street west between Adams and Jefferson aves. and Eighteenth street, west between Monroe and Jackson aves. in West Huntington with brick.

### Sewer Construction

Ala., Huntsville—Details under Textile Mills.

Ark., Little Rock—Details under Road and Street Construction.

Fla., Daytona—City will vote Oct. 2 on bonds as follows: \$260,000 for waterfront; \$200,000 for streets; \$100,000 for sewer construction and extension; \$100,000 for water works and \$10,000 for part payment on fire station.

Fla., Hollywood—Details under Land Developments.

Fla., Leesburg—City plans installing sanitary sewers, etc.; voted \$22,000 bonds. Address The Mayor.

Fla., Miami—City Commission receive bids until August 14 for construction of storm sewer, under contract No. 31, covering storm sewer No. 60-A; work consists of furnishing and laying approximately: 3522 ft. of 10 to 24-in. of terra cotta plate; 588 feet of 24x15-in., 368 ft. of 24x18-in., 376 ft. of 18x12-in., 350 ft. of 24x24-in., 350 ft. of 27x36-in., 350 ft. of 26x30-in., 696 ft. of 36x24-in., 714 ft. of 30x30-in., 988 ft. of 42x30-in., and 905 ft. of 42x36-in. concrete sewer; F. H. Wharton, City Mgr.

La., Alexandria—City authorized \$295,000 bond issue; \$195,000 for municipal improvements including street and sewer construction. Address The Mayor.

Miss., Greenwood—City will construct storm sewer and resurface and pave streets; \$168,000 bond issue voted. Address The Mayor.

Mo., Canton—City will vote August 17 on bonds for sewer system and improvements to water works. Address The Mayor.

Mo., Jefferson City—Details under Land Developments.

Mo., Maplewood—City, Geo. D. Romar, Clk., opens bids August 1 for construction of sewers in Manchester Sewer Dist No. 2; plans, etc., from City Engr., or City Clk.

Okla., Ramona—Details under Water Works.

S. C., Florence—City, Paul Rogers, Mayor, interested in proposition to install sewer system; cost about \$15,000.

S. C., Pageland—Details under Water Works.

Tenn., Greeneville—Details under Water Works.

Tex., Dallas—Details under Land Developments.

Va., Bristol—Details under Road and Street Construction.

Va., Portsmouth—City, J. P. Jersey, Mgr., opens bids August 2 to furnish and construct approximately 5575 lin. ft. of 8 in. T. C. sewer; 2290 lin. ft. of 4 in. T. C. house connections; 12 manholes; 10 flushboxes; together with appurtenant structures in Fourth and other streets; Jos. F. Weaver, Jr., City Engr.

### Telephone Systems

Fla., Davie—Farmers Phone Co., incorporated with Ralph Horton, Pres.; T. M. Griffin, Sec.-Treas.

Ga., Decatur—Southern Bell Telephone & Telegraph Co., 61½ Forsyth St., Atlanta, Ga., let contract to Barge-Thompson Co., at \$26,000, for addition to central office; Marye, Alger & Alger, Archts., Atlanta.

Okla., Tulsa—Southwestern Bell Telephone Co., Main Office St. Louis, Mo., reported to plan erection of building at Fifth and Detroit Sts.; cost of building and equipment \$2,000,000.

Tenn., Memphis—Postal Telegraph & Cable Co. will occupy building on South Court Ave.; Hanks & Cairns, Archts. are receiving bids for remodeling structure; cost \$30,000.

Va., Clifton Forge—Clifton Forge Mutual Telephone Co. plans improvements to plant.

W. Va., Charleston—Chesapeake & Potomac Telephone Co., Main Office Baltimore, Md., will extend underground system from Ruffner Ave. to Elizabeth St.; cost \$37,400.

W. Va., Clarksburg—Chesapeake & Potomac Telephone Co. of West Virginia will expend about \$69,000 in improvements to plant.

W. Va., Huntington—Chesapeake & Potomac Telephone Co., Main Office Baltimore, Md., will expend \$50,000 in improvements.

### Textile Mills

Ala., Geneva—Geneva Cotton Mills, capital \$150,000, incorporated by W. O. Mulkey, D. H. Morris, Jr., and others.

Ala., Huntsville—Lincoln Cotton Mills Co. reported to establish addition to present mill at a cost of about \$1,000,000; have let contract to Hutchens Co. for water and sewer system for village. Wire to Manufacturers Record states "Report Premature." (Lately noted.)

N. C., Durham—Morven Cotton Mills plans enlarging plant, installing new machinery, etc.

N. C., Norwood—Norwood Manufacturing Co., J. F. Shinn, Sec., let contract to Pickler-Lamplrey Construction Co., Pine Bluff, N. C., to erect mill; one building 80x75 ft., 2 stories, other building 50x75 ft., one story and basement; mill construction; will increase output 20 per cent.; will install carding, combing and twisting machine to cost about \$150,000; contracts let. (Lately noted.)

W. Va., Hinton—New River Silk Co., capital \$50,000, incorporated by W. F. Bush, E. M. Meadows, S. S. Rose.

### Water Works

Ala., Huntsville—Details under Textile Mills.

Ark., Fort Smith—Fort Smith Water-Works Dist., receives bids until Aug. 1 to trench, lay and back fill about 64,000 ft. cast iron pipe; plans, etc., from D. L. Ford, Chmn., and from Klersted & Stringfellow, 611 Interstate Bldg., Kansas City, Mo.

Ark., Marianna—City Council contemplates rebuilding and enlarging water plant; cost \$200,000.

Fla., Boynton—Town plans \$75,000 bond issue, including \$25,000 to install water works, \$15,000 for street extension and sidewalk improvement, and \$35,000 for indebtedness. Address The Mayor.

Fla., Daytona—Details under Sewer Construction.

Fla., Hollywood—Details under Land Developments.

Fla., Pahokee—Town plans installing water-works, ice plant, and building 18-ft. road on water front; contemplates \$90,000 bond issue. Address The Mayor.

Fla., West Palm Beach—Details under Land Developments.

Mo., Canton—Details under Sewer Construction.

Mo., Jefferson City—Details under Land Development.

Mo., Kansas City—Fire and Water Board accepted report of Fuller & Maitland, Const. Engrs. on water system to cost about \$19,877,000. (Previously noted voting \$11,000,000 bonds for water works.)

Building program and estimates of cost together with proposed dates of opening bids are as follows:

October, 1923—main pressure tunnel, \$1,527,000; branch pressure tunnels, \$1,906,000; main pumping and power plant machinery for right lift station \$1,051,000; total cost \$4,484,000.

March, 1924—high lift station sub structures, valves, piping and equalizing reservoir, \$1,508,000; purification works, grading, basins and substructures, railroad siding, \$4,660,000; total cost \$6,168,000.

October, 1924—high lift station super structures, staves and coal handling equipment, \$560,000; pressure tunnel, drainage and control arrangements, \$253,000; discharge mains \$2,974,000; total cost \$3,787,000.

May, 1925—high lift station, steam auxiliary equipment, \$302,000; low lift and second-

ary stations, pumping and electrical equipment, \$731,000; total cost \$1,033,000.

September, 1925—intake and low lift station substructure and grit chamber, \$661,000; purification works super structure, \$679,000; high lift station, roads, walks, etc., \$36,000; river protection work, \$575,000; total cost \$1,951,000.

June, 1926—purification works, filter and chemical equipment, roads, walks, etc., \$854,000; will also expend from 1924 to 1926 for extensions to distribution systems and improvement of existing works, \$1,600,000.

Mo., St. Louis—Details under Road and Street Construction.

N. C., Blowing Rock—City, Mayor Robbins contemplates installing water-works system.

N. C., North Wilkesboro—City contemplates expending about \$10,000 installing coagulating and filtering basin and other improvements. Address The Mayor.

Okla., Muskogee—City will install \$13,950 pump, increasing pumping capacity of water works to 24,000,000 gals.; D. L. Youmans, City Mgr.

Okla., Ramona—City contemplates installing water and sewer system; will probably vote on \$49,000 bond issue. Address The Mayor.

S. C., Pageland—Town plans voting on about \$75,000 bonds for installing water-works, sewerage and electric light; Ryan Engineering Company, Engr., Columbia.

Tenn., Greeneville—City will receive bids until Aug. 10 to install about 4 mi. water and sewer main extensions; 1997 lin. ft. 12-15-24-in. storm drain pipes; 25 storm water, single, and 13 storm water double, inlets; 15,800 lbs. deformed steel bar reinforcement; also to grade, drain and pave in Improvement Dists. Nos. 28 to 38 inclusive; 33,000 lin. ft. combined curb and gutter and integral curb and gutter; 38,720 sq. yds. paving, cement concrete, asphaltic concrete, sheet asphalt on 5-in. cement concrete base, etc.; D. P. Mason, Mayor; W. C. Thacker, Recorder.

Tenn., Nashville—George Reyer, Supt. of Water Works, recommended following improvement to water works system, involving expenditure of approximately \$2,000,000: New 600 H. P. boiler with mechanical stokers, coal and ash-handling machinery; duplicate force main from pumping station to reservoir; high service station; reinforced mains for distribution; mechanical filter.

Tex., Beaumont—City let contract to Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa. at \$31,500, to construct steel water tank.

Tex., Beaumont—Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa., has contract for erection of steel water tower and tank; Terrell Bartlett, Engrs., San Antonio.

Tex., Brenham—City contemplates improving city's water supply which will include storage tanks for water and treatment of city's water by filtration. Address The Mayor.

Tex., Dallas—Details under Land Developments.

Tex., Edgewood—Details under Electric Light & Power Plants.

Fla., Fort Worth—City plans water and light improvements; contemplates \$20,000 bond issue. Address The Mayor.

Tex., Houston—Houston Lighting & Power Co. let contract to Southern Well Drilling Co., 327 First National Bank Bldg., Houston, for development of water supply of 1,000,000 gal. daily capacity at plant on Houston Ship Channel; water will be obtained from 10-in. well, 825 ft. deep and equipped with Sullivan air lift system of pumping.

Tex., League City—Galveston, Houston & Henderson R. R. Co., Galveston, Tex., let contract to Southern Well Drilling Co., 327 First National Bank Bldg., Houston, Tex. to install water station to develop approximately 400,000 gal. daily; equipped with complete Sullivan air lift system including compressor.

Tex., Paducah—City plans voting on bonds for water system. Address The Mayor.

Tex., Terrell—City Comsn. will construct concrete spillway 70 ft. wide and 300 ft. long at Lake Terrell; cost \$10,000.

Va., Harrisonburg—City will construct 15,000,000 gal. reservoir at water works. Address The Mayor.

### Woodworking Plants

La., New Orleans—New Orleans Chair Co. increased capital from \$50,000 to \$140,000.

Tex., Dallas—Chas. Bolanz will erect \$20,000 building at 2500 Commerce St., replacing structure of Texas Wheel and Body Co., lately noted burned at loss of \$75,000.

Tex., Houston—Houston Sash & Door Co., capital \$100,000, incorporated by M. N. Davidson, J. S. Carothers and others.

### FIRE DAMAGE

Ala., Birmingham—Birmingham Macaroni Co.'s Plant at 400 So. 14 St.; loss \$25,000.

Ga., Norcross—Shadburn Bros.' tannery; loss \$100,000.

Ky., Frankfort—O. C. Kenney and Sons' saw mill; loss \$10,000.

Ky., Harlan—Central Cafe; Joe The Tailor's shop; Wentworth Bakery; loss, \$15,000.

Ky., Taylorsville—Taylorsville Electric Light Co.'s engine room.

Md., Annapolis—Edward Weiss' store and dwelling, West and Calvert Sts.

Mo., St. Louis—Dorris Building, Olive and 11th Sts. owned by Dorris Estate (American Trust Co., Trustee); occupied by Lehman Piano Co., Shattiger Piano and Music Co. and Artphone Co.; loss \$200,000.

Mo., Union Star—George H. Durant's electric light plant; George Moyes' lumber yard; loss \$25,000.

N. C., Asheville—Emporium Dept. Store owned by Haywood Parker; loss \$200,000.

N. C., Asheville—Emporium Department Store on S. Pack Square; loss, \$125,000.

N. C., Charlotte—Southern Public Utilities Co.'s power house on S. Boulevard.

Okla., Blackwell—Globe Refining Co.'s plant; loss, \$10,000.

S. C., Aiken—Ice Company's plant; loss \$18,000.

S. C., Columbia—Southern Wholesale Lumber Co.'s plant, loss \$35,000; Richland Lumber Co.'s plant, loss \$7500.

S. C., Greenville—Piedmont & Northern Railway shops; loss \$18,000.

S. C., Newberry—J. L. and A. P. Ruff's store at St. Phillips.

S. C., Ninety-Six—Ninety-Six Lumber Co.'s plant; loss \$100,000.

Tenn., Ardmore—Buildings occupied by H. B. Mangum, Ardmore Drug Co., Jim Hill and Jim Farrell.

Tenn., Tellico Plains—Dr. W. A. Rogers dwelling, store and garage.

Tex., Brady—W. S. Shrophire's drug store; Brady Cafe; Newman's Confectionery Store; loss \$150,000.

Tex., Dallas—Liberty Grain Co.'s plant at 313 N. Walton St.; loss, \$50,000; Pulliam-Trewitt Co.'s plant; loss \$5000.

Tex., De Leon—De Leon Free Press stock room; loss \$8000.

Tex., Fort Worth—Black & Miles Garage, N. Main St.; loss, \$20,000.

Tex., Oakwood—Don Johnson's grocery; Grazer's restaurant; John Solomon's confectionery; C. A. Jones' general store; W. A. Heatly's market; Jim Reed's dry goods store; Douglas Dorman's grocery; Culhoun's restaurant and grocery, F. S. Lacker's jewelry store and Dickey's wagon shop.

Va., McKenney—R. D. White's residence near McKenney; loss \$10,000.

W. Va., Kimball—Plaza Restaurant owned by Gus Poole; McDowell Jewelry Co. and billiard parlor operated by Starer Bros.; Lewis Shoe Shop; Bank, Department and Hardware Store and Liebman Bros.' Store owned by Mrs. Jas. Walsh; Col. H. Banks' building; Forman Building occupied by Clark Hardware Co. and Forman & Co.

## BUILDING NEWS

### BUILDINGS PROPOSED

#### Association and Fraternal

Fla., Tampa—Italian Club, Philip F. Lippata, Pres., will remodel club on Seventh Ave. and Eighteenth St.

Fla., Tampa—Young Men's Hebrew Assn., M. G. Rosenberg, Asher Frank, and others, Bldg. Comm., purchased site, Central and Palm Aves., and plans to erect building.

Ga., Augusta—Patrick Walsh Council, K. of C., purchased building at 1012 Green St., and will convert into clubhouse after Oct. 1; restaurant, library, pool and billiard rooms, etc., on first floor, lodge room above.

Ky., Henderson—Ancient Free and Accepted Masons will erect \$100,000 temple.

Ky., Louisville—Kosair Temple, A. A. O. N. M. S., will erect \$1,500,000 Temple; Oriental type; terra cotta facing; third to seventh floors, inclusive, of first section for hotel; 31 rooms with shower baths on each floor; 1 entrance for hotel, officers' quarters and

54x107-ft. social room; cost of first section \$850,000; auditorium section, with separate entrance, to follow erection of first section; 130x185-ft. banquet room to seat 2200, kitchens, serving pantries and storerooms in basement; ballroom, 50x166 ft., on second floor; auditorium to seat 5000, with 50x183-ft. stage and proscenium arch 70 ft. wide; Joseph & Joseph, Archts., Louisville; bids opened Aug. 15. (Previously noted.)

Mo., Clinton—Ancient Free and Accepted Masons will erect temple; cost \$75,000; brick and stone; Heckenlively & Mark, Archts., Springfield.

Tenn., Chattanooga—Ancient Free and Accepted Masons will erect 14-story building, 7th and Cherry Sts.; cost \$1,000,000; fire-proof; reinforced concrete and steel; parking space for automobiles on first floor, office above; R. H. Hunt, Archt., James Bldg., Chattanooga. (Lately noted.)

Tex., Athens—Ancient Free and Accepted Masons will remodel Frankie Bonner Con-

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nally Bldg. for lodge rooms; cost about \$10,000; built-up felt roof; concrete and maple floors; stoves; metal ceilings; ventilators; L. R. Wright, Archt., Box 117; construction by day labor, C. O. Kemp, foreman; J. P. Harlin, plumbing and electric lighting; all Athens. (Lately noted.)

Tex., Fort Worth—South Side Lodge No. 1114, A. F. & A. M., will receive bids until Aug. 20 to erect lodge building, 5th Ave. and Magnolia St.; 3 stories and basement; fireproof; gray brick; native stone trim; structural steel frame; concrete floors; basement and first floor for business purposes, auditorium with balcony on second floor, lodge room and mezzanine with kitchen, lockers, etc., on third floor; plans and specifications from J. B. Davies, Archt., Fort Worth.

Tex., San Antonio—Ancient Free and Accepted Masons will erect \$60,000 Temple, Camden and Richmond Sts.

## Bank and Office

Ark., El Dorado—Guaranty Bank will erect additional stories to building.

Ark., El Dorado—Pat Marr plans to erect office building.

Fla., Groveland—Bank of Groveland will erect building; Frank H. Trimble, Archt., Orlando.

La., Winnsboro—Franklin State Bank & Trust Co. will receive bids until Aug. 14 to erect 1-story, brick and terra cotta fireproof bank building; plans and specifications from John W. Baker, Archt., Crowleyville, and on file at bank.

Mo., Kansas City—Midland Life Ins. Co., Daniel Boone, Jr., Pres., will remodel stone dwelling, Armour Blvd. and Main St., for offices; cost \$30,000.

Tenn., Nashville—Nashville, Chattanooga & St. Louis Ry., H. McDonald, Ch. Engr., Nashville, will erect 8-story and basement office building, Broadway and 10th Ave.; cost about \$200,000; 50x90 ft., with provision for future extension; reinforced concrete frame faced with brick and terra cotta; maple and terrazzo floors; 4-ply built-up roof over concrete slab; 2-pipe, low pressure vacuum system of heat; electric lights; two 5x6-ft. high-speed passenger elevators; plans by Engineering Dept. of Ry.; bids opened Aug. 6, lists closed. (Lately noted.)

Tex., Dallas—W. V. Cullum and A. D. Hodge will erect 3-story store and office building, Akard and Marilla Sts.; cost \$60,000; Lang & Witchell, Archts., Dallas.

Va., Abingdon—People's National Bank will erect 4-story building, Wall St.; limestone for first story, pressed brick above; 50x45-ft. banking room; 27 offices on 3 upper floors; vault; electric elevator; construction to begin Aug. 1.

Va., Lawrenceville—Brunswick County State Bank will erect bank building; Fred Bishop, Archt., Petersburg; bds opened Aug. 1.

W. Va., Berkeley Springs—Bank of Berkeley Springs will remodel building; cost \$10,000. Address V. E. Johnson, Pres.

W. Va., Williamson—National Bank of Commerce will remodel and add 2 stories to building; cost \$75,000 to \$80,000; Warne, Tucker & Pattison, Archts., Charleston.

## Churches

Ga., Atlanta—Druid Hills Presbyterian Church, Highland and Blue Ridge Aves., will erect \$100,000 building, Ponce de Leon Ave., near Highland Ave.; Pringle & Smith, Archts., Atlanta; will let contract Aug. 1. (Previously noted.)

Mo., Joplin—First Presbyterian Church, A. B. Thomas, Pres., Board of Trustees, will rebuild burned structure, 6th and Pearl Sts.;

cost \$75,000; 2 stories; A. A. Honeywell, Archt., Indianapolis, Ind. (Lately noted.)

Mo., Mexico—First Baptist Church is considering erecting \$80,000 building. Address The Pastor.

Mo., Palmyra—Christian Church will remodel building; install pipe organ. Address The Pastor.

N. C., Charlotte—First Associate Reformed Presbyterian Church, R. H. Ramsey, member, 711 N. Church St., plans to sell present structure and erect new building.

N. C., Cleveland—Central Methodist Church, Rev. A. L. Stanford, Pastor, plans to erect \$100,000 building.

N. C., Cornelius—Presbyterian Church, Rev. R. C. Clontz, Pastor, is erecting brick building.

N. C., Mount Airy—Z. T. Smith will erect building for Methodist Church on highway about 20 miles from Mount Airy facing Brown Mountain.

N. C., New Bern—St. Peter's A. M. E. Church will erect \$60,000 building to replace structure previously noted burned; brick, stone, terra cotta and steel; auditorium 53x119 ft., Sunday school 44x80 ft.; wood floors; slate roof; steam heat; conduit system of electric wiring; Herbert W. & John A. Simpson, Archts., Norfolk, Va. and New Bern; owner builds. (Lately noted.)

Tenn., Knoxville—Associates Bible Class of First M. E. Church, John W. Connor, Pres., will erect Sunday School and auditorium addition; capacity about 2000; cost \$100,000 to \$150,000; Barber & McMurray, Archts., Knoxville. (Lately noted.)

Tenn., Memphis—St. Paul's Methodist Church, Rev. John M. Jenkins, Pastor, will erect \$75,000 building, Euclid Ave. and Rozell St.; brick; stone trim; slate roof; art glass; pipe organ; heating plant, kitchen, classrooms, etc., in basement; auditorium to seat 800, gallery and mezzanine; Hubert T. McGee, Archt., Memphis. (Previously noted.)

Tex., Calvert—Methodist Episcopal Church will erect building; brick veneer; contract let July 24; P. G. Silber & Co., Archts., Bell Bldg., San Antonio.

Tex., Dallas—Owenwood Methodist Church will erect \$10,000 brick veneer building, 2902 Roscoe St. Address The Pastor.

Tex., Fort Worth—Broadway Presbyterian Church, Rev. D. F. McConnell, Pastor, plans to erect 3 or 4-story educational building in fall.

Tex., Fort Worth—Weatherford St. Methodist Church, Rev. B. R. Wagner, Pastor, will erect second unit of building for social center; auditorium to be erected later.

Tex., Fort Worth—Hemphill Heights Methodist Church, Rev. R. O. Sory, Pastor, will erect 2 stories to basement unit already completed; cost \$30,000; auditorium to seat 600, Sunday school rooms, etc.; W. C. Meador, Archt., Fort Worth. (Previously noted.)

Tex., Grand Prairie—Methodist Church, Rev. M. H. Read, Pastor, will erect \$15,000 brick veneer building in fall.

Tex., Norfolk—Park Place Baptist Church, Milton McKann, Chmn., Bldg. Comm., purchased site, Colonial Ave. and 33rd St., and plans to erect building.

## City and County

Ala., Birmingham—Courthouse—Representative Mark Jeter will introduce bill in legislature to provide for \$1,500,000 bond election to erect Jefferson County courthouse. Address County Comms.

Ark., Camden—Courthouse—Ouachita County, J. C. Russell, Chmn., County Comms., opened bids July 23 to erect 1-story

brick addition to courthouse but deferred awarding contract until fall; Thompson & Harding, Archts., Little Rock and El Dorado. (Lately noted.)

Fla., Cross City—Courthouse—Dixie County Board of Comms., W. T. Green, Chmn., will receive bids until Aug. 6 for furnishing all material and erecting courthouse; plans and specifications from S. J. Welch, Archt., Pensacola, and L. L. Barber, Clk. Circuit Court, Cross City, and on file at office of County Comms.

Fla., Daytona—Fire Station—City, S. C. Archibald, Mayor, will vote Oct. 1 on \$670,000 bonds, including \$10,000 for fire station. (Lately noted.)

Ga., Macon—Auditorium—City, Alderman B. J. Dasher, Chmn., Auditorium Comn., will erect \$600,000 municipal auditorium on site of present structure, 1st and Cherry Sts.; Egerton Swartout, Archt., 18 W. 34th St., New York; Dennis & Dennis, Asso. Archts., Macon; Gunvald Aus Co., Structural Engrs., New York. (Lately noted.)

Ga., Savannah—Engine House—City Council is considering erection of engine house at 41st and Ott Sts.

La., New Orleans—Central Fire Station—City, Mr. Evans, Fire Chief, will erect \$100,000 central fire station on Poydras St. between St. Charles and Carondelet Sts.

Md., Annapolis—Courthouse—Anne Arundel County will remodel courthouse; Wm. B. Gardiner, Archt., Annapolis.

Mo., St. Joseph—Detention Home—Buchanan County will erect 2-story detention home near county infirmary; Eckel & Aldrich, Archts., St. Joseph. (Previously noted.)

N. C., Morganton—Courthouse—Burke County, H. R. Riddle, Chmn., County Comms., will remodel and enlarge stone courthouse; Ronald Greene, Archt., Asheville.

N. C., Newton—Courthouse—Catawba County, J. D. Elliott, Chmn., County Commissioners, will erect \$200,000 courthouse; 3 stories and basement; 140x60 ft.; fireproof; composition roof; metal doors; vaults; vault lights; steel sash and trim; flooring and heating not decided; Willard G. Rogers, Archt., 206 Latonia Bldg., Charlotte. (Lately noted.)

S. C., Aiken—Courthouse—Aiken County will erect annex to courthouse; plans submitted by Willis Irvin, Augusta, Ga.

Tenn., Memphis—Library—City, Chas. D. Johnston, Librarian, will remodel and erect 3-story addition to Cossitt Library, Monroe Ave. and Front St.; cost \$150,000; automatic sprinkler system; automatic elevator; E. L. Harrison, Archt.-Engr., Memphis; will take bids about Sept. 1. (Bonds previously noted voted.)

Tex., Brownwood—Auditorium—City will vote Aug. 24 on \$50,000 bonds to erect memorial auditorium on Baker St.; 200x207 ft.; capacity 7000; basement for Isham A. Smith Post, American Legion. Address City Council. (Lately noted.)

Tex., Plainview—Courthouse—Hale County will erect \$40,000 courthouse and jail; 3 stories.

Tex., Waco—Jail and Courts—McLennan County plans voting on \$400,000 bonds to erect all and criminal courts. Address County Comms.

W. Va., Kingwood—Jail—Preston County plans to erect 2-story fireproof jail; 25 cells; cost \$75,000. Address County Comms.

## Dwellings

Ala., Fairfield—Tennessee Land Co. will erect residence on Hospital Heights for Dr. Lloyd Noland, Supt. of Health Department; cost \$25,000.

Ark., El Dorado—J. W. Swilley is erecting \$18,000 residence; foundation complete.

Ark., Little Rock—August Kahler will erect 9-room brick veneer residence, 2000 Gaines St.; cost \$17,000.

Fla., Eustis—Mrs. Rachael J. McPhaul and Stephen McPhaul, Port St. Joe, will erect residence.

Fla., Miami—G. C. Kirkland, 285 N. E. 24th St., will erect four concrete block dwellings, S. W. 7th St., near 15th Ave., and 1 frame dwelling, S. W. 34th St. Terrace; cost \$6000 each.

Fla., Mt. Dora—Fred S. Cate, West Kennebunkport, Me., purchased tract near Mt. Dora and will erect residence and start grove.

Fla., Palm Beach—J. S. Willson Co. is erecting \$30,000 dwelling, Brazilian Ave. near County Rd.

La., Monroe—M. E. Church, South, will erect parsonage on Jackson St.; cost \$11,000; 2 stories; frame and brick.

La., New Orleans—L. Aronson, 415 Carondelet St., will erect 2 bungalows, Willow and Octavia Sts.; total cost \$12,000.

La., New Orleans—Stine Howath, 620 Carondelet St., will erect 2 duplex dwellings, Pitt and Napoleon Sts.; total cost \$10,000.

La., New Orleans—Louis Hymel, 1612 Roesslein St., will erect 3 double cottages, N. Tonti and Havana Sts.; total cost \$14,000.

La., New Orleans—Max Singer will erect 3 double cottages, Johnson, General Pershing and Milan Sts.; total cost \$12,000.

La., New Orleans—Sam'l. Sokolsky, 336 Baronne St., will erect 2 duplex buildings, St. Charles and Carrollton Sts.; total cost \$16,000.

La., New Orleans—S. Teles will erect 4 double cottages, Constance, Race and Orange Sts.; total cost \$16,000.

Md., Baltimore—Callahan & Potts, 52 Knickerbocker Bldg., will erect 10 two-story brick daylight houses at Mondawmin Ave. and Hilton St.; 8 rooms and bath; cost \$40,000.

Md., Baltimore—R. B. Construction Co. will erect seven 2-story brick dwellings, Pimlico Rd. and Summit Ave.; cost \$18,000; 17x32 ft.; slate roofs; Geo. Wessel, Archt., 3001 Lyttleton Rd., Baltimore.

Md., Baltimore—Geo. A. Cook, 221 University Parkway, will erect 15 two-story brick dwellings, S. W. cor. and 11 at N. W. cor. Henderson and Barclay Sts.; total cost \$36,000.

Md., Baltimore—E. J. Gallagher Realty Co., Munsey Bldg., will erect 44 two-story dwellings, 3301-43 and 3300-42 Elmley Ave., 44 at 3301-43 and 3300-42 Lyndale Ave. and 4, 100-06 W. 28th St.; total cost \$215,000.

Md., Baltimore—Walter Koch, 3706 Garrison Ave., will erect two 2½-story hollow tile and stucco dwellings, 4021-23 Barrington Rd.; cost \$15,000 each; 30x46.2 ft.; slate roofs; hardwood and wood block floors; interior tile; hot water heat, about \$1000; city lights, about \$500; plans and construction by owner. (Lately noted.)

Md., Baltimore—Frank Novak Realty Co., Gunther Bldg., will erect 30 two-story dwellings in 1800 block, 30 in 1700 block and 34 in 1600 block, E. 31st. St.; total cost \$310,000.

Md., Baltimore—Geo. W. Schoenhals, 101 S. Linwood Ave., will erect 6 two-story brick dwellings, 1011-21 N. Payson St.; total cost \$15,000.

Md., Baltimore—Harry F. Shew, Jr., Longwood and Preszman Sts., is erecting 10 brick dwellings, east side Longwood St., south of Presbury St.; 2 stories; 18.6x32 ft.; composi-

tion roofs; wood floors; pipeless furnaces; F. E. Beall, Archt., 306 St. Paul St.; owner builds. (Lately noted.)

Md., Baltimore—International Engineering & Construction Co., 102 E. Hamilton Ave., will erect 4 two-story brick dwellings, north side Preszman St., west of Ellamont St.; 19x31 ft.; steam heat; total cost \$12,000; E. H. C. Brown, Archt., 705 Gladstone Ave., Roland Park, Baltimore; owner builds. (Lately noted.)

Md., Baltimore—Allied Construction Co., 447 Equitable Bldg., purchased tract on Duval and Woodland Aves., between Mt. Holly and Loudon Aves., and plans to erect 200 semi-detached Colonial type cottages; first group of 40 to begin in fall; cost about \$7000 each.

Md., Baltimore—Wm. J. T. French, 4800 Liberty Hgts. Ave., will erect nine 1½-story frame dwellings, N. E. cor. Kathland Ave. and Montgomery Park; total cost \$30,000.

Md., Baltimore—Geo. H. Kesseling, 4107 Ridgewood Ave., will erect two 1½-story frame cottages, 3909-11 Gwynn Oak Ave.; 26x42x30 ft.; total cost \$10,000; owner builds.

Md., Baltimore—Harrison S. Phillips, 3814 Montgomery Ave., will erect 4 two-story frame dwellings and garages, 3912-18 Montgomery Ave.; 28x28 ft. and 18x20 ft.; total cost \$20,000; Geo. Wessel, Archt., 3001 Lyttleton Rd.; owner builds. (Lately noted.)

Md., Baltimore—J. Julius Smith, 308 Professional Bldg., will erect \$12,000 brick dwelling and garage, 3912 Liberty Hgts. Ave., 2½ stories; 32x40x24 ft.

Mo., St. Louis—Ellis W. Cook, Pres., American Wine Co., will erect Elizabethan English type residence, Lindell Blvd.; 3 stories; matt brick; Bedford stone trim and fireplaces; tile and other floors; solarium; sleeping porch; garage, with servants' quarter above, attached to house; equipment to include incinerator, electric ice box and vacuum cleaner; Study & Farrar, Archts., Arcade Bldg., St. Louis.

N. C., Charlotte—J. A. Lockhart will erect \$12,000 residence on Queens Rd., Myers Park.

N. C., Charlotte—I. G. Wallace, Sardis, will erect residence at Monroe and Sardis Rds., 7 miles from Charlotte; 8 rooms; L. L. Hunter, Archt., Charlotte.

Okl., Oklahoma City—P. M. Minter will erect \$22,000 residence, 701 E. 15th St.; brick veneer.

Okl., Oklahoma City—G. A. Nichols will erect \$20,000 brick veneer dwelling, 618 W. 15th St., and \$6000 building, 425 W. 18th St.

Okl., Oklahoma City—Jas. Robinson will erect \$30,000 residence, 300 W. 16th St.

S. C., Columbia—A. C. Flora will erect brick veneer bungalow, Melrose Hgts.; J. B. Urquhart, Archt., Columbia.

S. C., Lyman—Lockwood, Greene & Co., Engrs., 24 Federal St., Boston, will receive bids within a few weeks for construction of superintendent's and 7 overseer's dwellings, 12-room school and community building at new plant of Pacific Mills under construction.

S. C., Orangeburg—Lutheran Church, Rev. Paul Sigmon, Pastor, will erect parsonage, Amelia and Center Sts.; brick foundation.

Tex., Beaumont—George T. Adams, Pres., S. L. Adams & Co., will erect two-story frame residence and garage at North and Sixth Sts.; cost \$14,000; Frank T. Smith, Archt., Beaumont.

Tex., Brownsville—M. J. Garcia will erect \$35,000 residence; 2 stories; 12 rooms; wood

and tile floors; concrete foundation; slate roof; M. L. Waller & Co., Archts., 511 Brady Bldg., San Antonio; construction on percentage basis. (Previously noted.)

Tex., Dallas—J. A. Heiskell will erect two 5-room cottages, 307 S. Brighton and 2210 N. Henderson Sts., and five 4-room cottages, 2434-38-42-46-50 Kingston St.; all frame; total cost \$15,750.

Tex., Dallas—Mrs. Helen Chandler will erect \$10,000 dwelling, 4616-18 Gaston St.; brick.

Tex., Dallas—R. E. Hancock will erect 9-room brick dwelling, 6101 Gaston St.; cost \$15,000.

Tex., Dallas—Edward Gray will erect \$70,000 country residence on 900-acre tract near Dallas.

Tex., Houston—J. A. Miller will erect \$12,000 two-story, brick veneer residence.

Tex., San Antonio—Wm. F. Shultz will erect residence on King's Highway; Ideal brick walls; tile roof; Harvey L. Page, Archt., San Antonio; J. M. Oldham, Contr., at \$31,341; Chalkley Bros., plumbing, \$2275; Schroeder Electric Co., electrical work; Lathrop Furnace Co., heating; all San Antonio.

Tex., San Antonio—Harry S. Landa, New Braunfels, will erect \$75,000 residence, on 15-acre tract in Alamo Heights and expend about \$25,000 to improve grounds; construct 3-acre fish pond.

Tex., San Antonio—Tom E. Hogg will erect 2-story hollow tile and stucco residence, Bushnell Place; Atlee B. & Robt. M. Ayres, Archts.; W. C. Thraikill, low bidder at \$52,866; other low bids as follows: Wright Bros., electrical work, \$1135; Open Shop Plumbing Co., plumbing, \$3374; West & Gutzeit, heating for house and garage, \$3200. (Lately noted.)

Va., Richmond—C. E. Hughes, 3021 Hawthorne Ave., will erect 2 stucco dwellings, 1212-1214 Laburnum Ave.; 2 stories; 24x30 x28 ft.; cinder block foundations; slate roofs; hot water heat; wood floors; total cost \$10,000; plans and construction by owner.

## Government and State

Mo., St. Louis—Custom House, Courthouse and Post Office—Treasury Dept., Jas. A. Wetmore, Act. Supervising Archt., Washington, D. C., will receive bids until Aug. 10 for new offices for judges on custom house, courthouse and post office building; drawings and specifications from Custodian at site or from office Supervising Archt.

Tenn., Memphis—Sub Post Office—Treasury Dept., Jas. A. Wetmore, Act. Supervising Archt., Washington, D. C., will receive bids until Aug. 22 for construction of sub post office, Calhoun Ave. and 2nd St.; 1-story, brick, steel and concrete; about 124x138 ft.; composition roof; drawings and specifications from Custodian at site or from office Supervising Archt.

Tex., Corsicana—Home—State Home will erect \$90,000 dormitory and addition to dairy barn.

## Hospitals, Sanitariums, Etc.

Ala., Birmingham—Hillman Hospital will erect nurses' home, Avenue G, near 19th St., South; H. B. Wheelock, Archt., Birmingham.

Ala., Birmingham—Jefferson County Tuberculosis Sanatorium, R. A. Brown, Chmn. of Comm., purchased 110-acre tract beyond Rosedale, between Salter Rd. and Shades Creek and will erect \$150,000 to \$200,000

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sanatorium; Bem Price, Archts., Jefferson County Bank Bldg., Birmingham.

Ala., Montgomery—Woman's College of Alabama, F. M. Jackson, Birmingham, Chmn., Board of Trustees, will erect 2-story brick hospital; 25 beds; cost, including equipment, \$20,000; Frank Lockwood, Archt., Montgomery.

Ark., El Dorado—Ku Klux Klan, Jas. A. Comer, Grand Dragon of Arkansas, will erect Elma Coble Comer Memorial Hospital; cost \$150,000; 75 beds; 2 operating rooms, main one to be glass on 3 sides and roof; Jas. H. Bliss & Son, Archts., El Dorado. Address Box 1896, El Dorado. (Lately noted.)

Ky., Bowling Green—City will vote at November election on \$125,000 bonds for hospital. Address The Mayor.

Mo., Kansas City—Dr. G. Wilse Robinson, 30th St. and the Paseo, purchased 30-room residence on Independence Rd, near Beaumont Station and plans to convert for sanitarium; erect 3-story wing addition, construct gymnasium in present garage, golf course, etc.; plans to erect additional wing later.

S. C., Columbia—South Carolina State Hospital, R. B. Scarborough, Chmn., Board of Regents, will erect 2 physicians' residences; Lafaye & Lafaye, Archts., 1002 Loan & Exchange Bank Bldg., Columbia.

Tenn., Memphis—St. Joseph's Hospital, Jackson Ave., will erect \$125,000 nurses' home; 150x50 ft.; accommodate 100; reinforced concrete construction; composition roof; hardwood, terrazzo and concrete floors; hollow fireproof and interior tile; metal doors; ventilators; wire glass; 1 electric elevator; will use present heating and lighting plants; bids opened about Oct. 15. Address Henry J. Kramer, Archt., 632 Goodwyn Inst. Bldg., Memphis.

Tex., Dallas—City-County Hospital Board, J. E. Lee, Pres., will remodel and equip present unit and 3 new units of Parkland Hospital.

Tex., Houston—Drs. Alvis E. Greer, David Greer and Jas. H. Park, Jr., all Kress Bldg., purchased building at 3717 Main St. and are remodeling for children's hospital; cost \$10,000.

W. Va., Richwood—Drs. James and Robt. McClung, Hugh G. Dunn, and others, purchased 3-story Krashowitz Bldg., Oakford Ave., and will convert into 60-bed general hospital; elevator; equipment; cost \$40,000 to \$60,000.

### Hotels and Apartments

Ark., El Dorado—Jas. Dumas will erect 50-room hotel.

Ark., El Dorado—Zeke Morgan will erect apartment house; 12 suites.

Ark., Texarkana—Rotary Hotel Comm., F. E. Pharr, Chmn., plans to erect \$800,000 hotel; fireproof; brick, concrete and steel; 200 rooms. (Lately noted.)

Fla., Miami—F. C. Heal, 1216 Washington Ave., will erect 2-story apartment on Drexel Ave.; 3 suites of 4 and 6 rooms; cement blocks and stuccoed in Spanish design.

Fla., Miami—John Lindberg, 620 N. W. Eleventh Ave., will erect apartment house; 36x48 ft.; 3-room suites; screened porches; cost \$16,000; J. C. Gault, Archt., Miami.

Fla., Miami—Moses Rippa will build apartment house; 34 suites of 3 and 4 rooms each; will also erect four 3-room cottages; total cost \$24,000.

Fla., Miami—Dr. Zana Hughes will erect 12-room apartment house in Glademoor; concrete block and stucco.

La., New Orleans—Joe Travers will erect apartment building at Esplanade and Broad

Sts.; cost \$11,723; 2 stories; frame and stucco; E. B. Mason, Archt., 301 Vincent Bldg., New Orleans. (Lately noted.)

Miss., Bay St. Louis—Bay Hotel Co., H. S. Weston, Pres., will erect \$95,000 tourist hotel; 2 stories; fireproof; brick and concrete; stucco trim; composition roof; cement and tile floors; steam heat, \$8500; electric lights; electric elevator; contract in about 35 days; Wm. T. Nolan, Archt., Canal-Commercial Bldg., New Orleans. (Lately noted.)

Mo., Gilliam—A. R. Kallmeyer and B. F. Daniel plan to erect hotel.

N. C., Asheville—L. L. Jenkins will remodel first 2 floors of Jenkins Hotel, Haywood St.; cost \$25,000.

Okl., Oklahoma City—T. J. Brown will erect apartment house, 736 E. 13th St.; cost \$11,500.

Okl., Pawhuska—Duncan Hotel, C. A. Duncan, Pres., will erect hotel; Ed. Florsblom, Archt., Wichita, Kans.; Webb & Luther, Enid, are lowest bidders at \$175,000; R. P. Johnson, Wichita, heating and plumbing, \$41,800; Nelson Electrical Co., Parsons, Kans., electric work, \$5337.

Tex., Dallas—E. G. Carpenter will erect 12-room apartment house, 1019 N. Madison St.

Tex., Houston—E. J. Lattner, 310 Turnbow Bldg., will erect \$27,000 apartment building; 2 stories and basement; 43x61 ft.; hollow fireproof, tile and brick veneer; tar and gravel roof; hardwood, concrete, composition and tile floors; interior tile; ornamental terra cotta; ventilators; plans and construction by owner; P. M. Lattner Mfg. Co., hot water heat, \$2200; F. Kolle, lighting, cost plus basis. (Lately noted.)

W. Va., Welch—Jno. S. Summers will erect 2-story addition to building at Elkhorn and Wyoming Sts. for apartments; brick; Garrey & Sheffey, Archts., Bluefield.

### Miscellaneous

Fla., Miami—Lumber Shed—East Coast Lumber and Supply Co. will erect brick lumber shed at N. W. First Ave. and Fifth St.; cost \$10,900.

Fla., St. Petersburg—Clubhouse—Pass-a-Grille Fishing Lodge, Walter A. Evans, Pres., plans to erect \$200,000 to \$300,000 building; W. J. Carpenter, Archt., St. Petersburg.

Ky., Louisville—Club Building—Italian-American Club will erect \$75,000 building at 414-16 E. Broadway; Italian renaissance; 3 stories; 60-ft. frontage; brick, stone, tile and marble; 2 stores on first floor; second, 4 offices, auditorium and dance hall, etc.; club quarters on third; Sanders & Weindell, Archts., Louisville.

La., New Orleans—Market—Housekeepers' Building & Loan Assn., Jno. L. Oster, Pres., is reported planning erection of \$25,000 market building at Claiborne and Elysian Fields Ave.

N. C., Charlotte—Clubhouse—C. R. Dewey, Charlotte, is preparing preliminary plans for \$100,000 clubhouse on Providence Road 6 mi. from Carmel Church; 218-acre site; 9-hole golf course.

Tenn., Nashville—Cafe—Shacklett Cafeteria Co., will enlarge Tulane Coffee House.

Tex., Beaumont—Market—A. M. Kauffman will erect market house; 140x300 ft.; steel and concrete; tile roof; concrete floor; F. W. Steinman & Sons, Archts., Beaumont. (Lately noted.)

Tex., Dallas—Orphanage—Buckner's Orphans Home, Hall F. Buckner and Joe E. Buckner, Mgrs., will erect 4 dormitories; cost \$65,000 each; 65x101 ft.; 3 stories; reinforced concrete frame; brick and tile walls; tile roof; hollow fireproof tile; cement and tile

floors; Fl't & Broad, Archts., 311 Andrews Bldg.; H. T. Apple, contr. for foundations. (Lately noted.)

Tex., Fort Worth—Home—Masonic Orphans Home will erect dining hall; cost \$60,000 to \$70,000; W. G. Clarkson & Co., Archts., Fort Worth; also erect \$175,000 dormitory; Herbert M. Greene Co., Archts., Dallas; both structures fireproof; brick, stone and reinforced concrete.

### Railway Stations, Sheds, Etc.

La., Baton Rouge—Yazoo & Mississippi Valley R. R., A. H. Egan, Gen. Supt., Memphis, Tenn., is reported to erect passenger and freight depots; cost \$350,000; former 380 ft. long; 2 stories; latter, 200 ft. long; 1 and 2 stories; both structures rough face brick; Bedford stone trim; slate roofs.

### Schools

Ala., Bessemer—Bessemer Coal, Iron & Land Co. will erect county school at West Highlands; cost \$30,000.

Ala., Huntsville—City Board of Education will erect ward school in North Huntsville; cost \$10,000.

Ala., Walnut Grove—School Board will erect Junior High School; cost \$12,000; 2 stories; 74x38 with ell 40x38 ft.; frame; shingle roof; wood floors; hot air heat. Address A. S. Nelson, Walnut Grove. (Lately noted.)

Fla., Fort Pierce—Fort Pierce and St. Lucie Special Tax School Dist. will erect school building; 12 or 15 rooms; will vote Aug. 21 on \$140,000 bonds. Address School Dist. Trustees.

Fla., Seabreeze—Daytona Beach and Seabreeze will vote Aug. 14 on \$125,000 bonds to erect two school buildings one in Lenox Ave. Section and the other near Clarendon golf links. Address The Bd. of Education.

Fla., South Palm Beach—Palm Beach County Board of Public Instruction, West Palm Beach, will receive bids until Aug. 22 to erect addition to school; plans and specifications at office Wm. Manley King, Archt., West Palm Beach.

Fla., West Palm Beach—Special Tax School Dist. No. 9, plans building negro industrial school; voted \$15,000 bonds; J. W. Mickens, Supt.

Ga., Barwick—Barwick School Dist. voted \$20,000 bonds to erect 6-room school. Address School Dist. Trustees.

Ky., Louisville—Jefferson County School Board will erect \$30,000 school; 6 rooms; brick veneer.

Ky., Oneida—Oneida Baptist Institute will erect additional unit; 3 stories; 50x60 ft.

Ky., Utica—Daviess County Board of Education Jno. L. Graham, Supt., Owensboro, will receive bids until Aug. 7 to erect addition to high school.

La., Baton Rouge—Louisiana State University and Agricultural College, R. L. Himes, Sec., will receive bids until Aug. 3 to construct stock judging pavilion; 100x200 ft.; frame; cost \$25,000; plans and specifications at office Theo. C. Link, Archt., Fourth Floor, Capital Bldg., Baton Rouge. (Lately noted.)

La., Crew Lake—Richland Parish School Board, E. E. Kebler, Supt., Rayville, will receive bids until Aug. 14 to erect building; brick; plans and specifications at office J. W. Smith, Archt., Monroe.

La., Mer Rouge—Ouachita Parish School Board, T. O. Brown, Sec., Monroe, will erect school; cost \$75,000; J. W. Smith, Archt., Monroe. (Lately noted.)

La., New Orleans—Orleans Parish School Board, Jacob Schlosser, Supt., will erect La-

fayette School on Carrollton Ave. between Apple and Belfast Sts.; cost \$300,000; 3 stories; 189x224 ft.; reinforced concrete and pressed brick; cement trim; 31 classrooms; E. A. Christy, Archt., New Orleans; also temporary school at Third and Claiborne Aves.; cost \$15,000; 1-story; 53x106 ft.; 2 cottages for janitors at General Pershing and Miro Sts. and Broadway and Irma Sts.; 4 rooms and bath each; \$4000 to \$5000; 5-room temporary school at Cut Off Road; \$7000; day labor.

La., Shreveport—First Baptist Church, Dr. M. E. Dood, pastor, is interested in erection of Baptist College for Girls in South Highlands; cost \$500,000.

La., Slidell—St. Tammany Parish School Board, Covington, will erect \$60,000 high school; brick and reinforced concrete; composition roof; wood and concrete floors; low pressure steam heat; electric lights; contract in about 40 days; Wm. T. Nolan, Archt., Canal-Commercial Bldg., New Orleans. Address E. E. Lyon, Covington. (Lately noted.)

Miss., Biloxi—Harrison-Jackson Consolidated School Dist., plans school building; will vote July 31 on \$15,000 bonds. Address School Commrs.

Miss., Oxford—School Board will erect building on Depot St.; cost about \$100,000; N. W. Overstreet, Archt., Jackson. (Previously noted.)

Miss., Redwood—Warren County School Board, Vicksburg, will receive bids until Aug. 22 to erect additions to Culkin Academy, erect teacherage and install water systems at Redwood, Culkin Academy and Bovina.

Mo., Joplin—Board of Education plans school building; voted \$75,000 bonds.

Mo., Warrensburg—City Board of Education will receive bids until Aug. 8 to erect junior and senior high school; separate bids for heating, plumbing and ventilating; plans and specifications at office J. H. Felt & Co., Archts., Kansas City, Mo. (Lately noted.)

N. C., Asheville—Asheville Normal and Associated Schools, Dr. Jno. E. Calfee, Pres., will erect \$25,000 industrial art building; 2 stories; brick; W. H. Lord, Archt., Asheville.

N. C., Elizabeth City—State Normal School will erect 3-story brick dormitory for men, social hall, gymnasium and several cottages; cost \$150,000; Jas. A. Salter, Archt., Raleigh.

N. C., Mayodan—Rockingham County Bd. of Education, L. N. Hickerson, Supt., Wentworth, will receive bids until Aug. 13 to erect school; plans and specifications at office Jas. W. Hopper, Archt., Leaksville, N. C.

N. C., Wake Forest—Wake Forest College will erect dormitory; accommodate 100; also erect library later; cost \$250,000; Wilson & Berryman, Archts., Columbia, S. C.

N. C., Winston-Salem—Forsyth County School Board has indefinitely postponed erection of Waughtown School.

Okl., Oklahoma City—Board of Education, A. C. Persons, Supt., will receive bids until Aug. 8 to erect additions to Webster Junior High School and Capital Hill Junior High School; cost \$100,000 each; also 4-room buildings at W. 45th St. and N. Western Ave. and at E. 12th St. and Kelham Ave.; separate bids for heating, ventilating and plumbing; plans and specifications at office Layton, Smith & Forsyth, Archts., Southwest National Bank Bldg., Oklahoma City.

S. C., Columbia—School Board will erect \$60,000 brick school; 150-ft. frontage; 2 stories; 16 class rooms and 2 offices.

S. C., Greenville—F. W. Poe Mfg. Co. will erect school at Poe Mill; cost \$30,000; 2 stories and basement; 8 classrooms to seat 650; gymnasium, lockers and shower rooms; brick; Beacham & LeGrand, Archts., Greenville.

S. C., Lyman—Lockwood, Greene & Co., Engrs., 24 Federal St., Boston, will receive bids within a few weeks to erect 12 room school at plant of Pacific Mills under construction. (See Dwellings.)

S. C., Marion—School Board, H. Mullins, Chmn., will receive bids until Aug. 15 for erection, heating and plumbing of high school; plans and specifications from W. J. Wilkins & Co., Archts., Florence. (Lately noted.)

S. C., Mayo—School Trustees, D. C. Champion, Chmn., will erect teacherage; bids opened July 27.

S. C., York—Bethany School Dist. No. 2 will vote Aug. 1 on \$12,000 bonds for erecting and equipping school buildings. Address School Dist. Trustees.

Tenn., Dayton—Rhea County Board of Education, Walter White, Supt., will erect 4-room brick school on farm 4 miles from Dayton; State plan No. 4-A; bids opened July 31.

Tenn., Knoxville—University of Tennessee, Dr. H. A. Morgan, Pres., will construct power plant; \$115,000 appropriation; plans by Dean C. E. Ferris, and J. R. McColl, Constl. Engr., Detroit, Mich.

Tex., Denton—Board of Trustees of Denton City Schools, Dr. T. C. Dobbins, Pres., will receive bids until Aug. 3 to erect 1-story, brick school; 10 rooms and auditorium; separate bids for heating, plumbing and wiring; plans and specifications from W. G. Clarkson & Co., Archts., First National Bank Bldg., Fort Worth, Tex.

Tex., Desdemona—School Dist. voted \$25,000 bonds for school. Address Pres., Board of School Trustees.

Tex., Floydada—Prairie Chapel Consolidated School Dist. voted \$11,000 bonds for constructing brick school building. Address School Dist. Trustees.

Tex., Fort Worth—School Board will erect negro school, 26th St. and Clinton Ave.; cost \$14,000.

Tex., Hull—Hull Independent School Dist. will receive bids until Aug. 10 to erect fireproof high school building, Hull Dist.; separate bids for heating, plumbing and electric wiring; plans from Alfred C. Finn, Archt., Coggan Bldg., Houston, or from O. L. Winfrey, Hull. Address J. W. Canter, Sec., Dallasetta, Tex. (Previously noted.)

Tex., Pattison—School Board will erect building in Dist. No. 14; bids opened Aug. 1; plans and specifications at office Alfred C. Finn, Archt., Bankers Mortgage Bldg., Houston.

Tex., San Antonio—School Board will receive bids until Aug. 7 to erect 6-room and auditorium addition to Douglas High School; 4-room additions to Grant School, Collins Garden School, Highland Park School; plans and specifications at office Phelps & Dewees, Archts., San Antonio. (Lately noted.)

Va., Altavista—Campbell County School Board, Leo A. Arthur, Chmn., will receive bids until Aug. 4 to erect one-room schools at Lynchs and Lawyers.

Va., Newsoms—Southampton County School Board, Robt. M. Newton, Div. Supt., Franklin, will erect 10-room and auditorium building; fireproof; metal ceilings; concrete floors; steel sash and trim; Raymond V. Long, Archt. for State Board of Education, Richmond; will relet contract soon. (Lately noted.)

W. Va., Charleston—Kanawha County Bd. of Education will erect 8 room school on Swann's Hill, 6 room school on upper Bigley, building on Truslow St., colored school on South Hills and 4-room structure near Kelly Ax Plant; Warne, Tucker & Pattison, Archts., Charleston.

W. Va., Huntington—School Board plans

to establish athletic field between 9th and 10th Aves.; construct concrete and steel stand, shower baths and locker rooms.

W. Va., Rock—Bd. of Education, W. D. Garwood, Pres., plans calling an election on \$255,000 bonds.

## Stores

Ala., Ensley—Val. J. Nesbit, Birmingham, will erect building at Avenue G and 19th St.; 2 stories; 100x100 ft.; brick and concrete.

Ala., Montgomery—Jas. McCormick plans to erect 2-story brick building at Groom and Court Sts.

Ala., Tuscaloosa—Lula Hargrove will erect 3 stores and garage on University Ave.; C. M. Ayers, Archt., Tuscaloosa.

Ark., El Dorado—B. W. Reeves & Co., will erect department store.

Ark., El Dorado—H. F. Mellor will erect business building; 50x100 ft.

Ark., El Dorado—J. F. Sample Co. will erect additional stories to department store.

Ark., El Dorado—Mrs. Lena O. Goodwin will erect business block; 150x100 ft.

Ark., El Dorado—R. J. Elder will erect 2-story business block; 50x100 ft.

Ark., El Dorado—R. N. Garrett will erect business building; 100x100 ft.

Ark., El Dorado—Sam Trinca will erect 2-story business block.

Ark., Little Rock—Wm. Back will erect 2 story building at 1417-19 Main St.; cost \$25,000; fireproof.

Fla., Tampa—John Bize will erect store on Central Ave.

Ky., Louisville—Consolidated Realty Co., H. J. Scheirich, V.P., will remodel building at Second and Liberty Sts.; cost \$15,000.

La., New Orleans—A. Devati will erect \$16,000 building for grocery, market and residence; 36x115 ft.; frame; tile roof; Pierre F. Donnes, Jr., Archt., 3003 Cleveland Ave., New Orleans; day labor.

La., New Orleans—United Cotton Realty Co. will remodel building at 309-11 Baronne St.; Wels & Dreyfous, Archts., New Orleans.

La., Shreveport—J. Katzenstein, Leon B. Loeb and Sam Weiner will erect department store at Texas Ave. and Louisiana St. to be operated by Feibleman & Co., New Orleans; cost \$300,000; 4 stories and basement.

Md., Baltimore—Bernheimer Department Stores, Isadore O. Wolf, Pres., 311-17 W. Lexington St., and Leader Department Store, Leon C. Coblenz, Pres., Howard and Lexington Sts., will merge under name of Bernheimer-Leader Stores; will erect 8 or 10-story building; site 156 ft. on Howard St. and 166 ft. on Kimball Alley; cost \$1,250,000 to \$1,500,000; other details not determined.

Mo., Hornersville—Hornersville Mercantile Co. will erect business block to replace structure lately noted burned; brick.

N. C., Charlotte—C. P. Moody will erect \$35,000 building; 72½x142 ft.; steel frame; ordinary wood joist construction; Barrett roof; cement and hardwood floors; electric lights; freight elevator; Louis H. Asbury, Archt., Realty Bldg., Charlotte.

N. C., Cleveland—McKnight & Co. will erect 2 story brick building; 50x115 ft.

N. C., Durham—Belk-Ludson Co. will erect \$50,000 building; 3 stories and basement; 1000 sq. ft. floor space; brick.

N. C., Wilmington—L. M. Ham and David White will erect 3-story business building at Front and Grace Sts.; 66x100 ft.; cost \$50,000.

Ola., Muskogee—Griffin Grocery Co. will erect a wholesale house at Cherokee and Ball-

timore Sts.; cost \$60,000; 3 stories; brick; Charles Dawson, Archt., Muskogee.

Tex., Cleburne—F. W. Woolworth Co. will erect store; cost \$60,000; 4 stories; brick and stone.

Tex., Corsicana—Chas. Jester will erect \$12,000 building on 3rd Ave.; 1 story.

Tex., Falls City—Schultz Mercantile Co. will remodel building for addition to store; Atlee B. & Robt. M. Ayres, Archts., San Antonio.

Tex., Fort Worth—Sanguinet, Staats & Hedrick, Fort Worth, are preparing plans for rebuilding bus'ness building, using old walls; cost \$65,000; 110x200 ft.; fireproof; stone, brick and steel.

Tex., San Antonio—Dr. H. H. Ogilvie will erect store building on Avenue D; Adams & Adams, Archts., San Antonio.

Tex., San Antonio—Mrs. Johanna Steves will erect building on S. Alamo St. for 7 stores and garage; brick and frame; Will N. Noonan, Archt., San Antonio.

### Theatres

Fla., Cocoa—Cogswell & Bryan will erect moving picture theater; Marye, Alger & Alger, Archts., Atlanta, Ga.

Fla., Tampa—J. C. Morris will construct movie house on Central Ave.; 800 capacity.

Mo., Trenton—J. C. Hartman, Kansas City, will erect \$75,000 theater.

### Warehouses

Ala., Birmingham—Break in Bulk Birmingham Warehouse Corp., T. O. Melton, V. P., Brown-Marx Bldg., authorized capital, \$3,030,000, plans to erect 10-story warehouse; 2,000,000 sq. ft. space; side tracks and house tracks; Lockwood-Greene & Co., Engrs., are making economic survey of shipping situation and will announce details of capacity, type of construction, etc.; Lowndes Walther & Co., Fiscal Agts., arranging preliminary details. (Lately noted.)

Fla., Miami—City, F. H. Wharton, Mgr., will erect warehouse at city docks to be occupied by Gulf & Southern Steamship Co.; 75x525 ft.; 1 story; cement blocks and steel; bids opened July 31; H. H. Mundy, Archt., Miami. (Lately noted.)

Ga., Atlanta—Atlanta Terminal Co., R. B. Pegram, Pres., plans to remodel Atlanta Terminal Station; cost about \$1,000,000; plans being drawn by expert in Washington and reported to be ready within 30 days; also making repairs in train shed of station.

Ky., Owensesboro—G. W. Robinson, Robt Wilson and J. Walter Boyle will erect \$80,000 warehouse; 180x500 ft.

Ky., Owensesboro—Dark Tobacco Growers Cooperative Assn. will erect following warehouses:

Owensesboro, one house to cost \$60,000 and store 6000 hogheads of tobacco; Hopkinsville, one house, \$20,000 and one house, \$67,500 for storage purposes, to hold about 6000 hogheads of tobacco; also a house to cost \$40,000 for sales purposes; Paducah, two houses, one to cost \$50,000, another \$75,000; Mayfield, two houses to cost \$40,000 each; Clarksville, Tenn., three houses, one to cost \$32,000, one \$20,000, and a third to cost \$100,000, this to store 8000 hogheads of tobacco; Henderson, three houses to cost \$135,000; other houses for which plans have been made in Kentucky are as follows: Kuttawa, \$22,500; Princeton, \$40,000; Greenville, \$30,000; Bowling Green, \$75,000; La Center, \$4500; Benton, \$30,000; Murray, \$40,000; Cadiz, \$40,000; Morganfield, \$12,500; Madisonville, \$15,000; Slaughters, \$7500; Dixon, \$22,500; Auburn, \$25,000; Smith's Grove, \$30,000; Tompkinsville, \$25,000; Morgantown, \$5000; LaFayette, \$10,000; Sacramento, \$5000; Calhoun, \$20,000; Hartford, \$22,500; following plants are proposed in Tennessee, in addition to the plants at Clarksville: Springfield, \$50,000; Tullahoma, \$22,500; Adams, \$22,500; Orlinda, \$22,500; Martin, \$30,000; Dresden, \$15,000; Paris, \$20,000; plans by and construction under supervision of Manley & Young, Archts.-Engrs., Knoxville, Tenn. (Lately noted in part.)

Tenn., Rockwood—C. B. Hall, Cleveland, and Max Fritzhe, Rockwood, are interested in erection of 2-story brick warehouse.

Tex., Crystal City—Crystal City Electric & Ice Co. will erect storage building; brick and reinforced concrete; Jno. M. Marriott, Archt., Oppenheimer Bldg., San Antonio.

building on Meeting St. for office and chapel; cost \$14,000; J. D. Newcomer, Archt.; M. O. Gardner, Contr.; both Charleston.

Tex., San Antonio—Southern Presbyterian Church will erect first story of brick and concrete building, Gevers and Hammond Sts.; Adams & Adams, Archts.; V. L. Rasmussen, contr. at \$9745; A. H. Shafer, low b'd for electrical work, \$175, and Reiwald Co. for plumbing, \$331, contracts not let; all San Antonio.

Tex., Lubbock—First Baptist Church, Rev. W. A. Bowen, Pastor, is erecting \$50,000 brick building; 86x107 ft.; tar and gravel roof; edge grain yellow pine floors; steam heat, \$4000; lighting, \$750; Peters & Haynes, Archts., Lubbock; Fred Bone Constr. Co., Contr., Amarillo. (Lately noted.)

Tex., Marlin—City Hall—Levi Goodrich, City Engr., will erect \$15,229 city hall; brick and concrete; 1 and 2 stories; about 20x60 ft.; concrete floors and foundation; Roy E. Lane, Archt.; Villemain & Petzold, Contrs.; both Waco. (Lately noted.)

Va., Lynchburg—St. Paul's P. E. Church, Dr. J. M. Robeson, Rector, is redecorating interior; cost \$10,000; J. & R. Lamb, Archts.-Contr., 25 Sixth Ave., New York. (Lately noted.)

Va., Richmond—Mt. Carmel Baptist Church will erect \$12,000 addition, 1303 First Ave.; 8x25 ft.; 2 stories; brick foundation and walls; tin roof; wood floors; hot water heat; plans by owner; Davis Bros., Contrs., 2510 W. Main St., Richmond.

Va., Richmond—Courthouse—City will erect 40x60-ft. addition to and remodel Hustings Courthouse, Part II, Tenth and Hull Sts.; cost \$35,000; ordinary brick and wood; tin and slate roof; wood and tile floors; steam heat; electric lights; Carneal & Johnston, Archts.; W. H. Snyder, Contr., Mutual Bldg.; both Richmond. (Lately noted.)

W. Va., Fairmont—Fire Station—City, W. W. Conaway, Mayor, will erect \$13,800 fire station, Morgantown and E. Park Ave., East Side; dormitories, showers, gymnasium, etc., on second floor; Watkins & Co., Archts.; C. E. Minor, Contr.; both Fairmont. (Previously noted.)

### City and County

Fla., Jacksonville—Clubhouse—City will erect 1-story composition shingle and tile clubhouse at municipal golf course, Moncrief Hts.; cost \$15,164; Rutledge Holmes, Archt.; Forster & Christopher, Contrs.; both Jacksonville. (Lately noted.)

Fla., Sanford—Country Club and Athletic Field—City plans voting on \$75,000 bonds for County Club and Athletic Field. Address The Mayor.

N. C., Graham—Courthouse—Alamance County, N. O. Warren, County Mgr., will erect \$179,770 fireproof courthouse, Greensboro-Raleigh Highway; granite and terra cotta; 3 stories and basement; 57x100 ft.; concrete, composition and tile floors; composition roof; Harry Barton, Archt., Greensboro; North Carolina Construction Co., Contr., Charlotte, N. C., and New York; Kirkman Plumbing Co., heating, \$5424, plumbing; Walker Electric Co., electric wiring, \$1650; both Burlington. (Lately noted.)

N. C., Graham—Home—Alamance County, N. O. Warren, County Mgr., will erect \$30,463 fireproof county home,  $\frac{1}{2}$  mile from Graham; 1 story; brick; accommodate 40 in addition to living quarters for Supt. and family; Harry Barton, Archt., Greensboro; J. O. R. Davis, Contr.; Kirkman Plumbing Co., heating, \$4232; W. G. Shivers, plumbing, \$3150; F. F. Spoon, electric wiring, \$625; all Burlington. (Previously noted.)

N. C., Winston-Salem—Fire Station—City,

## BUILDING CONTRACTS AWARDED

### Association and Fraternal

Mo., St. Louis—York Rite Masons will erect \$2,500,000 Temple, Lindell Blvd. west of St. Louis Club; structural steel frame; reinforced concrete slabs; Bedford stone facing; approximately 150x250 ft.; height equivalent to 14 stories; Eames & Young and Albert Groves, Asso. Archts.; Westlake Construction Co., Contr.; all St. Louis.

### Bank and Office

Md., Baltimore—Commonwealth Bank, Jas. R. Wheeler, Pres., Madison and Howard Sts., will erect 1-story fireproof addition; 22x93 ft.; slag roof; steam heat; cost \$20,000; J. E. Sperry, Archt., Calvert Bldg.; West Construction Co., Contr., 908-09 American Bldg.; both Baltimore. (Lately noted.)

### Churches

La., Lake Charles—Woodbury Congregational Church, colored, will erect \$11,000 building on Boulevard; 38x68 ft.; 1 story; brick; composition roof; wood and concrete floors; concrete foundation; composition shingle roof; R. S. McCook, Archt.; E. M. Trane, Contr.; both Lake Charles. (Lately noted.)

Md., Baltimore—St. Casimirs R. C. Church, Rev. Benedict Przem'lewski, Pastor, will erect additions to building, 2712-18 O'Donnell St.; 1 and 2 stories; brick; 60x70 ft.; slag roof; cost \$12,000; E. L. Palmer, Jr., Archt., 513 N. Charles St.; L. L. Chambers, Contr., 36th St. and Roland Ave.; both Baltimore. (Lately noted.)

Mo., Marshfield—Baptist Church will erect \$20,000 building; 52x62 ft.; auditorium to seat 400, choir room, 14 classrooms, kitchenette, etc.; folding doors; Geo. Freed, Archt., Holland Bldg., Springfield; C. C. Robertson, Contr., Marshfield. (Lately noted.)

N. C., Mount Holly—St. Josephs R. C. Church will remodel building; R. M. Clark, Contr., Belmont.

Okl., Oklahoma City—Our Lady of Perpetual Help R. C. Church will erect \$100,000 building, 1120 W. 32nd. St.; 65x160 ft.; brick, concrete and wood roof construction; fireproof shingle or tile roof; yellow pine floors; Monnot & Reed, Archts., Empire Bldg.; Reinhart & Donovan, Contrs.; Cook & McDonald steam heating; all Oklahoma City. (Lately noted.)

S. C., Charleston—Star Gospel Mission will remodel and erect additional story to 1-story

Burns Elkin, Chmn., Fire Comm., will erect \$14,600 fire station, Glendale and Devonshire Sts., Southside; 24x70 ft. with tower on side, 11.7x13 ft.; brick walls, metal lumber floors and roof; concrete and wood floors; Barrett specification 5-ply tar and gravel roof; W. C. Northup, Archt.; Fogle Bros. Co., Contrs.; both Winston-Salem; heating and conduit system lighting by city. Address Contr. (Lately noted.)

### Dwellings

Fla., Miami Beach—Geo. A. Fuller Co., Fuller Bldg., New York, has contract to erect 11 Spanish type dwellings on Collins' Island; Kiehnell & Elliott, Archts., Miami Beach.

Fla., Ocala—J. W. Phillips will erect shingle residence; gummed wood trim; 2 stories and cellar; brick foundation; 9 rooms; Ray & Thomson, Contrs., Ocala.

Fla., Palm Beach—Neil Campbell will erect residence on lake front, south of South Palm Beach; 2-story living room with balcony and tile floor; J. S. Willson Co., Contr., Palm Beach.

Fla., Palm Beach—Geo. S. Wallen, Pres., Geo. S. Wallen Co., New York, is erecting \$25,000 Spanish type bungalow, Vita Serena; tile; patio; J. S. Willson Co., Contr., Palm Beach.

Fla., Palm Beach—Chas. O. Whitten, Boston, Mass., is erecting \$40,000 residence and garage, Clarke Ave., near County Rd.; Spanish type; 2 stories; tile; J. S. Willson Co., Contr., Palm Beach.

Ga., Hogansville—International Cotton Mills, Boston, Mass., will erect 128 operatives' dwellings and superintendent's dwelling at new Stark Mills under construction; La Grange Lumber & Supply Co., Contr., La Grange. (Lately noted.)

La., New Orleans—Miss E. M. Shropshire will erect 2 double cottages, Banks and Alexander Sts.; total cost \$12,000; Chas. Pfister, Contr., 5030 Magazine St., New Orleans.

Md., Baltimore—Geo. A. Foos, 2406 Calvert St., will erect \$15,000 residence, 39th St., west of Juniper Rd.; 2½ stories; brick; 38.6x30x32 ft.; slate roof; hot water heat; E. J. Schissler, Contr., Baltimore. (Lately noted.)

Mo., Brookfield—Mrs. Jessie Williamson is erecting bungalow, S. Main St.; E. E. Robison, Contr., Brookfield.

S. C., Columbia—Dr. Ralph K. Foster will erect \$13,000 residence on College St.; Harold Tatum, Archt.; John C. Heslep, Contr.; both Columbia.

Tenn., Knoxville—Chas. A. Gillespie will erect \$40,000 residence, 1119 Circle Park; 2 stories and basement; 14 rooms; brick; slate roof; oak and concrete floors; interior tile; A. B. Baumann & A. B. Baumann, Jr., Archts.; W. Park Ault, Contr.; White Plumbing & Heating Co., vacuum vapor steam heating system and plumbing, \$6200; all Knoxville.

Tex., Austin—W. M. Graham will erect \$20,000 residence, Enfield Addition; brick; 2 stories; shingle roof; oak and concrete floors; lighting \$2000; Giesecke & Harris, Archts.; Claud Truwick, Contr.; both Austin; heating in general contract. (Lately noted.)

Tex., Austin—H. A. Wroe will erect \$20,000 residence; 2 stories; hollow interlocking tile and stucco; red clay tile roof; hardwood floors; Gleseeke & Harris, Archts.; Brydson Lumber & Constr. Co., Contrs.; both Austin. (Contracts for plumbing, wiring, heating and brick work. (Lately noted.)

Tex., Ballinger—Robt. L. Harwell will erect \$11,400 residence, 8th St.; 1 story and concrete basement; brick veneer over frame; 40 x 50 ft.; asbestos built-up roof; hardwood floors; P. G. Silber & Co., Archts.,

331 Bedell Bldg.; W. A. McArdle, Contr.; West & Gutzeit, plumbing, \$880; all San Antonio; Ballinger Electric Co., Ballinger, electrical work, \$272; Moncreif Furnace Co., Dallas, hot air heating, \$546. (Lately noted.)

Tex., Beaumont—W. D. Gordon will erect \$40,000 Colonial residence, 7th and South Sts., Oaks Addition; hollow tile and stucco; Livesay & Wiedeman, Archts., Beaumont; Dixie Constr. Co., Contr., Houston. (Lately noted.)

### Hospitals, Sanitariums, Etc.

Md., Baltimore—Sisters of Bon Secour will erect east wing for nurses' home, Fayette and Pulaski Sts.; cost \$60,000; 2 stories; brick; plan to erect west wing for hospital purposes later; Jos. Evans Sperry, Archt., Calvert Bldg.; Frainie Bros. & Haigley, Contrs., 19 W. Franklin St.; both Baltimore. (Lately noted.)

W. Va., Welch—Dr. Chas. F. Hicks, Huntington, will erect \$40,000 hospital, Virginia Ave., Woodland Park addition; about 38x70 ft.; brick; composition flat roof; concrete and oak floors; hot water heat; electric lights; handpower elevator; W. H. Frampton, Archt., Huntington; Chas. H. Smithy, Contr., Welch. (Lately noted.)

### Hotels and Apartments

Fla., Bradenton—Braden Apartment Co., H. C. Van Sweringen, Pres., will erect \$100,000 extension to Manatee River Apartments, Florida Ave. and Broad Sts.; 51x101 ft.; 3 stories; T. W. Hullinger & Son, Contrs., Bradenton.

Fla., Winter Haven—D. G. Haley, Jacksonville, C. H. Thompson and D. W. Swartz, Winter Haven, and others purchased building under construction and will complete for 6-story hotel; cost \$200,000; 132 rooms with tub or shower baths; fireproof; brick, concrete and tile; Carey built-up roof; steam heat; electric lights; E. C. Hosford, Archt., Lakeland; Haigler & Smith, Contrs., Winter Haven and Arcadia; Rogers & Hughes, Lakeland, brick and tile work; Sanitary Plumbing Co., Arcadia, plumbing; Otis elevators. (Lately noted.)

Va., Norfolk—Skinner Realty Corp., W. S. Morris, Jr., Pres., will erect apartment house; cost \$75,000; 3 stories; 12 suites; brick; Mr. Ferebee, Archt., Arcade Bldg.; Blaine Graham Construction Co., Contr.; both Norfolk.

W. Va., Welch—Jno. W. Blakely and Edw. O'Toole, Jr., will erect Woodlawn Court Apartments, Riverside Ave.; 90x70 ft.; 4 stories; brick; hardwood floors; composition roof; stone foundation; hollow fireproof and interior tile; G. R. Ragan, Archt., Roanoke, Va.; Green & Stowe, Contrs., Bluefield, W. Va. (Lately noted.)

W. Va., Welch—John W. Blakely and Edw. O'Toole, Jr. will erect 4-story brick apartment house, Riverside Ave.; 90x70 ft.; hardwood floors; stone foundation; composition roof; hollow fireproof and interior tile; G. R. Ragan, Archt., 701 Colonial Bank Bldg., Roanoke, Va.; Green & Stowe, Contr., Roanoke; Mirable & Defuria, foundation work.

### Miscellaneous

Fla., Miami—Clubhouse—Coral Gables Co., will erect \$60,000 addition to clubhouse, Grandada Blvd. and Greenway Drive; dining room, 40x21 ft., main clubroom, card room, grill, dining porch, kitchen, dormitory for servants and 10 bedrooms with private bath; Martin L. Hampton, Archt.; Markley Construction Co., Contr.; both Miami.

Fla., West Palm Beach—Clubhouse—Tuscaloosa Club, J. B. McDonald, Pres., will erect additional story on Guaranty Bldg.

for club; Mr. Harry, Archt.; Wilcox Bros., Contrs.; both West Palm Beach.

S. C., Charleston—Home—Mrs. Jane Caroline Wilson Grant will erect first 6 units of home for aged Presbyterian women at Meeting and Huger Sts.; cost \$46,000; 2 stories; brick; tin roofs; each unit to contain 4 bedrooms, attic, cellar, 4 kitchenettes, concrete porches; David B. Hyer, Archt.; T. W. Worthy, Contr., both Charleston.

### Schools

Ark., Arkadelphia—Henderson-Brown College, Rev. J. J. Galloway, Financial Secy., will erect \$11,000 annex to Key Music Hall; U. G. Kauffman, Contr., Arkadelphia. (Lately noted.)

Fla., Sarasota—Board of Public Instruction will erect primary and intermediate school; cost \$10,000; T. V. Bryan, Contr., Gainesville.

La., Baton Rouge—Louisiana State University Bldg. Comm., R. L. Himes, Sec., will erect Hill Memorial Library at Greater Agricultural College; cost \$235,000; 216x75 ft.; 2 stories and basement; reinforced concrete; Ludowici tile roof; composition and cork floors; auditorium to seat 4000; Theo. C. Link, Archt., Fourth Floor, Capitol Bldg., Baton Rouge; J. V. & R. T. Burkes, Contrs., 210 Carondelet Bldg., New Orleans. (Lately noted.)

N. C., Busick—Guilford County Board of Education, T. R. Foust, Supt., will erect elementary schools at Busick and Ridgefield; total cost \$39,000; 6 rooms each; brick and tile; Linthicum & Linthicum, Archts., Raleigh; Byrum Construction Co., Contr., Oxford. (Lately noted.)

N. C., Charlotte—Queens College will erect domestic science practice house; cost \$15,000; 2 stories; 10 rooms; brick veneer; tile roof; wood floors; hot air heat; electric lights; R. E. Bonfoey, Archt.; R. N. Hunter, Contr.; both Charlotte. (Lately noted.)

N. C., Raleigh—North Carolina State College of Agriculture and Engineering will erect \$164,000 dormitory; 3 stories; 242x45 ft.; fireproof; brick, steel and concrete; limestone trim; 100 rooms; wood floors over concrete; brick foundation; Hobart B. Upjohn (Aaron G. Alexander, Mgr.), Archt., Grand Central Terminal, Archt., New York; J. W. Stout & Co., Contrs., Sanford, N. C. (Lately noted.)

N. C., Stanley—School Board will erect high school; cost \$20,000; L. D. Clemmer and Chas. Patterson, Contrs., Stanley.

Okla., Purdinville—Board of Education School Dist. No. 21, C. W. Burbank, Clk., will erect building; cost \$13,199; brick; Carthage stone sills and studding; M. T. Hardin, Archt., Equity Bldg.; Dougherty-Nichols Constr. Co., Contr.; both Muskogee. (Lately noted.)

S. C., Clinton—Presbyterian College of South Carolina, Dr. D. M. Douglas, Pres., will erect addition to dining hall to accommodate 200 and contain kitchen, serving and storage rooms in addition to dining feature; kitchen equipped with refrigerator; Casey & Fant, Archts., Anderson; Chas. L. Rounds & Co., Contrs., Clinton.

S. C., Columbia—University of South Carolina will erect women's dormitory; Rudolph E. Lee, Archt.; J. P. Little & Son, Contrs.; both Charlotte, N. C.

Tenn., Nashville—Ward Belmont College will erect dormitory, gymnasium and 10 clubhouses; cost \$300,000; semi-fireproof; slate and tile roof; hollow fireproof tile; hardwood and concrete floors; rolling partitions; heating from central plant; H. C. Hebb, Asmus & Norton and Russell E. Hart, respective archts.; Foster & Creighton Co., Contr., Nashville. (Previously noted.)

**Tex.**, Houston—Rice Institute, Prof. H. B. Weiser, Dean of Chemistry, will erect chemical laboratory; cost \$449,500; 307x148 ft.; 3 stories and basement; fireproof; brick and reinforced concrete; stone trim; tile roof; hardwood, cork, tile and cement floors; tile roof; metal doors; steel sash and trim; wire glass; ventilators; vaults; steam heat; electric lights; 3 electric lifts, \$7000; Wm. Ward Watkin, Archt., Scanlan Bldg., Houston; Cram & Ferguson, Supervising Archts., 15 Beacon St., Boston, Mass.; Tellepsen Construction Co., Contr., Houston. (Lately noted.)

**Tex.**, Idalou—School Board will erect high school; cost \$24,000; 68x124 ft.; brick and frame; metal tile roof; concrete and wood floors; metal ceilings; Peter Haynes, Archt., Lubbock; I. M. Bales, Contr., Idalou. (See Machinery Wanted—Concrete Mixer.)

**Tex.**, LaGrange—School Board, Judge C. D. Krause, Pres., will erect high school; cost \$75,140; 2 stories; fireproof; brick and hollow tile; C. H. Page & Bro., Archts.; H. E. Wattinger, Contr.; both Austin. (Lately noted.)

**Tex.**, Rochelle—School Board will erect \$10,000 building; brick; H. F. Kuehne, Archt., Austin; Jno. F. Drew, Contr., Lometa.

**Tex.**, Tulia—School Board will erect \$79,600 building; 206x58 ft.; brick and frame; tile roof; cement and hardwood floors; steel sash and trim; wire glass; Guy A. Carlander, Archt.; W. M. Rice Construction Co., Contr.; both Amarillo. (Lately noted.)

**Tex.**, Southland—Southland Independent School Dist. Trustees will erect \$29,000 high school; 124x98 ft.; semi-fireproof; concrete and brick; metal tile and tar and gravel roof; yellow pine and cement floors; Peters & Haynes, Archts., Lubbock; L. D. Harrison, Contr., Plainview, Sanitary Plumbing Co., Altus, Okla., steam heat, \$3490. (Lately noted.)

**Tex.**, Waco—Board of Education will erect \$20,000 addition to Dean-Highland School; 2 stories and basement; 6 rooms; T. Brooks Pearson, Archt.; H. J. Ainsworth, Contr.; both Waco.

**Va.**, Capron—Southampton County School Board, Robt. M. Newton, Supt., Franklin, will erect building; cost \$32,500; 1 story; 8 rooms and auditorium; maple floors; brick foundation; Mansard roof; R. V. Long, Archt. for State Board of Education, Richmond; E. C. Smith, Contr., Franklin; desires bids on heating. (Lately noted.)

**Va.**, Sweet Briar—Sweet Briar College will erect maid's dormitory; 2 stories and basement; brick; 13 bedrooms, living and dining rooms; Clark & Crowe, Archts., Lynchburg; J. E. Watts, Contr., Amherst.

**W. Va.**, Dunbar—Union District Board of Education will erect \$75,000 high school; 160x52 ft.; 3 stories; brick; stone trim; composition roof; hardwood and concrete floors; concrete foundation; hollow fireproof tile; steel sash; steam heat; 16 class rooms, manual training and domestic science rooms; Walter F. Martens, Archt.; Hawley & Parkins, Contrs.; Golf & Mathews, heating and plumbing; Alexander & Co., wiring; all Charleston. (Lately noted.)

### Stores

**Ark.**, El Dorado—Ritchie Grocer Co. will erect \$25,000 building; 31x165 ft.; brick; Johns-Manville roof; tar and gravel roof; C. S. Watts, Archt.; E. A. Hartman, Contr.; both El Dorado; Standard Conveyer Co., elevator. (Lately noted.)

**Fla.**, Daytona Beach—Albert Diem will erect 4-story store at Ocean Blvd. and Peninsula Drive; cost \$10,000; 75x52 ft.; Fuquay & Gheen, Contrs., Daytona Beach.

**S. C.**, Greenville—Southeastern Life Insurance Co. will erect 2-story brick building at Richardson St. and McBee Ave.; cost \$34,000; 100x95 ft.; 2 stories; brick; gravel roof; plate glass front; 6 stores; Morris-McKoy Bldg. Co., Contr., Greenville.

**Tenn.**, Knoxville—J. B. and W. G. Brownlow Realty Co. will remodel building at 613 S. Gay St.; basement for barber shop, main floor for store and 2 upper floors for offices; Ryno & Brackney, Archts.; Roehl & Gervin, Contrs.; both Knoxville.

**Tex.**, Dallas—E. A. Johnson & Co., 901 S. Preston St., will erect \$20,000 building; 1 story and basement; 7500 sq. ft.; reinforced concrete; concrete floors and roof; metal doors; Lang & Witchell, Archts., American Exchange Bank Bldg.; Rodgers & O'Rourke, Contrs.; both Dallas. (Lately noted.)

**Tex.**, Dallas—S. L. Messina will erect \$12,000 store; 1 story; 100x75 ft.; brick; McCright-Crane Co., Contr., Dallas.

**Tex.**, Taft—E. C. McClary will erect store; brick and tile; Jno. M. Marriott, Archt., San Antonio; W. C. Knacker Co., Contr., Corpus Christi. (Lately noted.)

### Theatres

**Fla.**, Tampa—Consolidated Amusement Co. will erect \$35,000 theater, 710 Franklin St.; marble and tile front; seat 1000; G. A. Miller, Contr., Tampa. (Previously noted.)

### Warehouses

**Tex.**, Dallas—Park Board will erect \$10,000 building on Nussbaumer St. for storing supplies, tools, etc.; 1 story; brick; H. C. Barlowe, Archt. (Lately noted.)

**Tex.**, Houston—Texas Warehouse Co., Wm. E. Fain, Pres., 205 Baker St., will erect \$12,000 addition to warehouse; 3 stories; 35 x100 ft.; brick and mill construction; tar and gravel roof; Houston Lumber & Bldg. Co., Contr., Houston.

**Tex.**, Houston—Ship Channel Compress Co., H. M. Crosswell, Pres., will erect \$200,000 cotton warehouse adjacent to \$75,000 wharf to be constructed near turning basin; mill construction; 2 stories; 147x352 ft.; Southwestern Construction Co., Contr., Houston.

**Va.**, Richmond—Richmond, Fredericksburg & Potomac R. R., W. D. Duke, Gen. Mgr., will erect warehouse at Duncan and Clay Sts. to be used by Atlantic & Pacific Tea Co.; cost \$122,000; 3 stories; concrete; Carnal & Johnston, Archts.; Wise Granite & Construction Co., Contr.; both Richmond. (Lately noted.)

## MACHINERY, PROPOSALS AND SUPPLIES WANTED

**Bags (Traveling).**—David S. Yates, Commission Broker, 719 N. Pine St., Charlotte, N. C.—To correspond with manufacturers of medium grade hand traveling bags.

**Barrels.**—C. B. Dowling, Swansea, S. C.—Names and addresses of barrel manufacturers.

**Boilers.**—See Soap Plant Equipment.

**Bridge.**—Colleton County, S. C., will build 3 bridges. Details under Construction News—Bridges, Culverts and Viaducts.

**Bridge.**—City of Charleston, W. Va.—Details under Construction News—Bridges, Culverts and Viaducts.

**Bridges.**—Louisiana Highway Comm., Raymond Bldg., Baton Rouge, La., will build 7 bridges. Details under Construction News—Bridges, Culverts and Viaducts.

**Bridges.**—State Highway Dept., 413 N. 10th St., Richmond, Va., will construct 4 bridges. Details under Construction News—Bridges, Culverts and Viaducts.

**Broom Factory.**—Chamber of Commerce, Moultrie, Ga.—Correspondence with manufacturers of broom machinery.

**Broom Making Machinery.**—J. D. Wood, Woodruff, S. C.—Prices and terms on broom making mechy.

**Cars (Dump).**—D. C. Elphinstone, (Mech. Dealer), 408 Continental Bldg., Baltimore, Md.—Twenty 4-yd. 2-way 36-in. gauge

Western dump cars; steel under frames preferred; state condition and location for inspection.

**Cars (Dump).**—Saluda Crushed Stone Co., 315 Southeastern Life Bldg., Greenville, S. C.—To purchase several 4 yd. dump cars, that dump both ways, also equipped with automatic couplers.

**Cars (Flat).**—Wilson-Hock Co., (Mech. Dealers) City Point, Va.—Dealers prices on 2 standard gauge 40 ft. flat cars.

**Channels and Rods.**—See Steel, etc.

**Clock Parts.**—J. F. Scofield, Berry, Ala.—Correspondence with manufacturers of different parts of clocks such as cog wheels, shafts, lever, etc., similar to those used in an 8-day clock.

**Concrete Mixer.**—I. M. Bales, Idalou, Tex.—Batch concrete mixer.

**Concrete Mixer.**—W. F. Bowe, Jr., Contr., 514 Broad St., Augusta, Ga.—Prices on second-hand  $\frac{1}{2}$  yd. or 2 bag building mixer on truck, up to about 14-ft. wet mixed capacity; prefer Koehring, Foote, Ranson or other standard makes; equipped with power side loader, steam driven, boiler mounted with mixer; state condition, immediate delivery.

**Converter (Rotary).**—Wood & Lane Co., (Mech. Dealers) 915 Olive St., St. Louis, Mo.—In market for 300 to 500 k. w. General Electric rotary converter, type HHC, 6-pole, 1200 RPM, 600 volt, 6 phase, compound

wound, high reluctance commuting pole, synchronous converter.

**Dehydrating Equipment.**—Warwick Ford, care Leon Hotel, Tallahassee, Fla.—Names and addresses of manufacturers of dehydrating machinery or equipment.

**Dikes and Mattresses.**—U. S. Engineer Office, 329 Customhouse, New Orleans, La.—Bids until Aug. 4 for constructing dikes and mattresses at head of South Pass.

**Drainage and Ditching Machinery.**—C. B. Faris, County Agent, New Bern, N. C.—Prices and specifications on medium capacity drainage and ditching machinery.

**Dredge (Oil Burning).**—Commrs. of Chat-ham County, Savannah, Ga., receives bids until September 20th for furnishing the County with one oil-burning land dredge, equipped with one cu. yd. bucket operated by at least 45 H. P. internal combustion engine; machinery so designed as to dig new ditches and clean those already dug; G. Reuben Butler, CLK.

**Generator.**—Loeb's Laundry, Memphis, Tenn.—One 75 to 100 k. w. direct connected generator, 100 to 125 volt D. C.; standard make; state age, condition; second hand.

**Grading.**—City of Washington, D. C.—Details under Construction News—Road and Street Construction.

**Handkerchiefs.**—Fred H. Townsend, Lumberton, N. C.—Names and addresses of manufacturers of handkerchiefs.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

**Handles.**—Anchor Broom Mfg. Co., J. W. Sanders, Pres., Springfield, Mo.—In market for handles in car lots.

**Heating Plant.**—Warsaw High and Graded School Trustees, H. L. Stevens, Chmn., Warsaw, N. C.—Steam heating for public school to be installed before Sept. 3; bids invited.

**Hog (Planing Mill).**—Norwood Lumber Co., Jos. Keys, Pres. and Gen. Mgr., Forney, N. C.—Names and addresses of manufacturers of small planing mill hogs, to take care of waste from flooring plant; pieces of flooring ranging from  $\frac{3}{8}$  x 1-in. to 2x4; oak, maple, birch and beech.

**Hose (Rubber).**—Mississippi River Comm., 1st and 2nd Dists., 1006 McCall Bldg., Memphis, Tenn.—Bids until Aug. 14 to furnish and deliver rubber hose.

**Hull (Steel).**—Mississippi River Comm., 1st and 2nd Dists., 1006 McCall Bldg., Memphis, Tenn.—Bids until Aug. 23 to furnish steel hull for sand dredge.

**I-Beams (Steel).**—Buncombe County Commissioners, E. M. Lyda, Chmn., Asheville, N. C.—Bids until Aug. 5 for about 10 tons steel I-Beams, f.o.b. Craggy Station, N. C.; detail information from L. E. Jarrett, County Draftsman, County Garage Bldg., Asheville.

**Jaw Crusher.**—Warner Moore & Co., Richmond, Va.—Name, make, age, condition and lowest price for first class second hand jaw crusher, to break lime stone down to 7 in. or under.

**Kaolin Deposits.**—C. W. Hunter, 801 N. Davis Ave., Richmond, Va.—Desirous of obtaining deposit of kaolin from which can be refined and shipped at least 1,000,000 tons of clay; pure white china clay or kaolin free from stain that fires white so that it will be satisfactory for white china, etc.

**Kettles.**—See Soap Plant Equipment.

**Levee.**—Board of Levee Commrs., for Yazoo-Mississippi Delta, Clarksdale, Miss.—Details under Construction News—Miscellaneous Construction.

**Levee.**—St. Francis Levee Board, Bridge Junction, Ark.—Details under Construction News—Miscellaneous Construction.

**Line Equipment.**—Board of Water Commissioners, Memphis, Tenn.—Bids until Aug. 15, to furnish and deliver various piping and equipments as follows: 6400 lin. ft. 7-in. and 8-in. steel drive pipe, 6800 lin. ft. inserted joint well casing; 400 screwer brass valves,  $\frac{1}{4}$ -in. to 2-in.; loose well caps, supporting couplings; umbrella deflector heads, etc.; 21 Drill-O-Meters; 23 venturi water meters, 23 mercury manometers, and 22 air rate of flow controllers; plans, etc. from Fuller & McClintock, Engrs., 879 North Parkway, Memphis, Tenn.

**Locomotives.**—D. C. Elphinstone (Mach. Dealer), 408 Continental Bldg., Baltimore, Md.—Two 36-in. gauge saddle-tank locomotives, Vulcan preferred; state condition and location for inspection.

**Mining Machine.**—Wood & Lane Co., (Machinery Dealers), 915 Olive St., St. Louis, Mo.—One Goodman short wall mining machine, 250 volt, direct current, 36" track gauge, 6 ft. cutter bar.

**Miscellaneous Supplies.**—Panama Canal, A. L. Flint, Gen. Purchasing Officer, Washington, D. C.—Bids until Aug. 10 to purchase gasoline, steel, manganese bronze, bolts, nuts, rivets, drill rods, hose couplings, brass and copper tubing, hand pumps, steel hangers and rollers, copper insect screens, lamp chimneys, port hole glasses, manila rope, lumber, etc. Blank forms and information (Circular 1548) on application to Panama Canal; Asst. Purchasing Agts. at New York, New Orleans, and U. S. Engineers Officers throughout country.

**Miscellaneous Supplies.**—General Purchasing Office, Panama Canal, Washington, D. C.—Bids until August 14 to furnish sheet iron or steel, brass tubing, sheet copper, sheet brass, bronze, wire nails, brass valves, hinges, putty, caustic soda, grindstones, mattress ticking, etc.; information on application to offices of Asst. Pur. Agts., 24 State St., New York City; 611 Gravier St., New Orleans, La.; and Fort Mason, San Francisco, Cal. and from U. S. Engineers offices in principal cities throughout U. S. (Sch. 1546).

**Motor.**—Hackley Morrison Co., Inc. (Mach. Dealers), 1708 Lewis St., Richmond, Va.—In market for one 75 H. P. squirrel cage motor, 3 phase, 60 cycle, 440 volt, with starting base and pulley; used, but in first-class condition.

**Moulding and Framing.**—See Steel, etc.

**Paving.**—City of Paintsville, Ky. Details under Construction News—Road and Street Construction.

**Paving.**—City of St. Louis, Mo. Details under Construction News—Road and Street Construction.

**Paving.**—City of Vernon Tex. Details under Construction News—Road and Street Construction.

**Paving.**—City of Bluefield, W. Va. Details under Construction News—Road and Street Construction.

**Paving.**—City of Greeneville, Tenn., D. P. Mason, Mayor—Details under Construction News—Water-Works.

**Paving.**—City of Bristol, Va. Details under Construction News—Road and Street Construction.

**Piers.**—City of Jefferson City, Mo.—Details under Construction News—Miscellaneous Construction.

**Planer and Matcher.**—See Woodworking Equipment.

**Plumbing Supplies, etc.**—Quartermaster, U. S. M. C., Room 3207, Navy Bldg., Washington, D. C.—Bids until August 9 to furnish and deliver plumbing supplies and hardware, f. o. b., Quantico, Va. (Sch. 56).

**Plumbing Tools.**—Roy Morse, 412 E. Michigan Ave., Tampa, Fla.—To correspond with dealers of first class plumbing tools.

**Pump (Centrifugal).**—Wilson-Hock Co. (Mchly. Dealers) City Point, Va.—Dealers prices on one centrifugal pump having a 24 hour capacity of 4,000,000 gals., operated against 80 ft. head and 10-ft. suction lift, directly connected to a gasoline engine.

**Rails.**—The American Metallic Packing Co., Lexington, Ky.—Ten thousand feet of 12-16 or 20 lb. first class used railroad rails; state price delivered at Lexington.

**Rails (Relaying).**—Dillon Supply Co., Raleigh, N. C.—To purchase relay rails.

**Recirculating System.**—City of Spartanburg, S. C., P. J. O. Smith, Supt. Street Dept.—In market for recirculating system of about 300,000 gals. filtering capacity in 12 to 15 hrs.

**Riprap Stone.**—Supt of Light Houses, Baltimore, Md.—Bids until August 15 to furnish and place about 2500 tons of riprap stone at lighthouse stations Fifth Dist.

**Road.**—City of St. Louis, Mo. Details under Construction News—Road and Street Construction.

**Road.**—State Roads Comm., 601 Garrett Bldg., Baltimore, Md. Details under Construction News—Road and Street Construction.

**Road.**—City of Belzoni, Miss. Details un-

der Construction News—Road and Street Construction.

**Road.**—State Highway Comm., Reymond Bldg., Baton Rouge, La., will build road. Details under Construction News—Road and Street Construction.

**Road.**—Town of Abbeville, La. Details under Construction News—Road and Street Construction.

**Road.**—Colleton County, S. C. will build 2 roads. Details under Construction News—Road and Street Construction.

**Road.**—State Highway Comm., Frankfort, Ky., will build 3 roads. Details under Construction.

**Road.**—City of Pittsburg, Tex. Details under Construction News—Road and Street Construction.

**Road.**—State Highway Comm., Frankfort, Ky., will build 3 road. Details under Construction News—Road and Street Construction.

**Road.**—State Highway Dept., 413 No. 10th St., Richmond, Va., will build 3 roads. Details under Construction News—Road and Street Construction.

**Road.**—State Roads Comm., 601 Garrett Building, Baltimore, Md., will build 4 roads. Details under Construction News—Road and Street Construction.

**Roads.**—Princess Anne County, Va. will build 6 roads. Details under Construction News—Road and Street Construction.

**Rubbish Cans (Metal).**—Board of Awards, Mayor Howard W. Jackson, Pres., Baltimore, Md.—Bids until August 8 to furnish metal rubbish cans for Street Cleaning Dept.

**Saw Equalizer or Trimmer.**—See Woodworking Equipment.

**Sewer.**—City of Greeneville, Tenn., D. P. Mason, Mayor—Details under Construction News—Water-Works.

**Sewer Construction.**—City of Miami, Fla.—Full details under Construction News—Sewer Construction.

**Sewers.**—City of Maplewood, Mo.—Details under Construction News—Sewer Construction.

**Sewers.**—City of Portsmouth, Va.—Details under Construction News—Sewer Construction.

**Shovel.**—D. C. Elphinstone (Mach. Dealers), 408 Continental Bldg., Baltimore, Md.—Erie "B" caterpillar or traction shovel, good condition; state condition and location for inspection.

**Shovels (Steam).**—Holston Quarry Co., Strawberry Plains, Tenn.—In market for  $2\frac{1}{2}$  yd. dipper railroad type steam shovel; prefer Bucyrus or Marion.

**Slate (Green).**—Fowler—Flemister Coal Co., Milledgeville, Ga.—To purchase approximately 50 squares green slate; correspond with manufacturers.

**Soap Plant Equipment.**—W. A. Evans, Pres. Southern Soap Co., Jacksonville, Fla.—Invites bids on soap plant equipment including machinery for manufacturing paste and bar soap and powder about 8 or 10 tons capacity, cost \$30,000; boilers, kettles and tanks.

**Springs.**—See Steel, etc.

**Stack (Steel).**—Stevens Bros. & Co., Atlanta, Ga.—One used steel stack, approximately 30-in. diam. and 50-ft. high.

**Stamped Metal Specialties.**—A. E. Thomas of Worth Mfg. Co., 911 Commerce St., Fort Worth, Tex.—Prices on nickel, stamping, castings, etc.

**Steel.**—Buncombe County Commrs., E. M. Lyda, Chmn., Asheville, N. C.—Bids until Aug. 5 for about 10 tons reinforcing steel,

f.o.b. Craggy Station, N. C.; detail information from L. E. Jarrett, County Draftsman, County Garage Bldg., Asheville.

**Steel, etc.**—Toursedan Corp., 104 W. Mt. Royal Ave., Baltimore, Md.—Drawn steel moulding and framing, small steel channels and rods, small springs, etc. for manufacture of auto top glass enclosures.

**Steel, Etc.**—Steel, etc.—Office of General Purchasing Officer of Panama Canal, Washington, D. C.—Bids until August 6 to furnish steel, ridge roll, bronze, sheet copper, plow steel rope, electric fans, end mills, pipe fittings, brass valves, storage batteries, etc.; delivery on dock at either Cristobal (Atlantic Port) or Balboa (Pacific Port) Canal Zone, Isthmus of Panama; (Circular No. 1547).

**Storage Shed.**—Treasury Department, Supervising Archt. office, Washington, D. C. Bids until August 20 for new storage shed and repairs to present shed, etc., at U. S. Central Heating, Light and Power plant, Washington; information on application.

**Street Lighting Equipment (Gas).**—City Register, City Hall, Baltimore, Md.—Bids until August 8 for gas street lamp fixtures and maintenance; John J. Hanson, Supt. of Lamps and Lighting.

**Tanks.**—See Soap Plant Equipment.

**Telephone System.**—Treasury Dept., Supervising Archt.'s office, Washington, D. C. Bids until August 23 for installing automatic telephone system in U. S. Veterans Hospital, Chelsea, N. Y.

**Tires and Tubes.**—Quartermaster, U. S. M. C. Room 3207, Navy Bldg., Washington, D. C.—Bids until August 8 to furnish and deliver tires and tubes; delivery Philadelphia, Pa. (Sch. 57.)

**Twine.**—Anchor Broom Mfg. Co., J. W. Sanders, Pres., Springfield, Mo.—In market for linen broom twine.

**Water Proofing.**—Treasury Dept., Supervising Archt.'s office, Washington, D. C.—Bids until August 23 for waterproofing exterior walls, cornices, etc., for U. S. Post Office, Aberdeen, Wash.

**Water-Works.**—City of Greeneville, Tenn., D. P. Mason, Mayor. Details under Construction News—Water-Works.

**Water-Works.**—Fort Smith Water Works Dist., Fort Smith, Ark. Details under Construction News—Water-Works.

**Well Houses.**—Board of Water Commrs., Memphis, Tenn.—Bids until Aug. 15 to build 23 well houses, consisting of concrete substructures and brick superstructures, trimmed with cut stone, with all necessary mill work, roofing, etc., plans, etc. from Fuller & McClintock, Engrs., 879 North Parkway, Memphis.

**Window Guards (Steel).**—Buncombe County Commrs., E. M. Lyda, Chmn., Asheville, N. C.—Bids until Aug. 5, for steel window guards for 129 windows, f.o.b. Craggy Station, N. C.; detail information from L. E. Jarrett, County Draftsman, County Garage Bldg., Asheville.

**Wire (Broom).**—Anchor Broom Mfg. Co., J. W. Sanders, Pres., Springfield, Mo.—In market for broom wire.

**Woodworking Equipment.**—Duncan Machinery Co. (Mach. Dealers), Dempster Bldg., Knoxville, Tenn. Jobbers cash prices on 15 to 24 in. by 6 in. thick, four-sided planer and matcher, that will dress from 15 to 30,000 ft. of lumber per day of 10 hrs., prefer 30,000 ft. capacity; 1 heavy self-feed rip saw; one 2 saw equalizer or trimmer that will trim lumber from 6 to 16 or 18 ft. long.

## Financial News

### New Financial Corporations

Ala., Tarrant City—Tarrant City Savings Bank, capital \$40,000, incorporated with K. A. Conville, Pres.; E. P. Rosamond, V.-P.; W. G. Nethery, Cashier.

Fla., Bradenton—United Abstract and Title Insurance Company, capital \$50,000 incorporated with John F. Vanderipe, Pres.; E. C. Ballis, Sec. and Treas.

Fla., Daytona—Conrad & Christianity capital \$25,000, incorporated with F. N. Conrad, Pres.; Cornelius Christianity, Vice-Pres.

Fla., Holt—Porter Interests of Florida capital \$500,000 incorporated with H. H. Porter, Pres.; H. B. Porter, Vice-Pres.

Fla., Jacksonville—Palmer & Palmer Corp., capital \$300,000, incorporated with T. M. Palmer, Pres.; A. W. Palmer, Vice-Pres.

Fla., Miami—J. L. Bass Co., capital \$10,000, incorporated with J. L. Bass, Pres., M. S. Bass, Vice-Pres.

Fla., Miami—Miami Discount Company, capital \$10,000, incorporated with J. E. Junkin, Pres. C. A. Avant, Vice-Pres.

Fla., Miami—Belmar Co., capital \$100,000, incorporated with Wm. I. Phillips, Pres-Treas.; H. Weinrich, V.-P.; Estelle I. Phillips, Sec.

Fla., Miami—Biscoe Investments, capital \$20,000, incorporated with Emma Girtman, Pres.; Bettie C. Clofton, V.-P.; Velma B. Jones, Sec.-Treas.

Fla., Miami—Howard Finance Corporation, capital \$25,000, organized by Robert E. Howarth, Trafford T. Taylor and A. C. Franks.

Fla., Tampa—Myers & Etter Company capital \$100,000, incorporated with W. E. Myers, Pres.; J. R. Etter, Vice-Pres.

Ga., Savannah—American Finance & Mortgage Co., capital \$1,000,000, incorporated with Lewis H. Smith, Pres.; Howard E. Coffin, Vice-Pres.

Md., Baltimore—Morris Plan Company will reorganize and increase capital from \$179,700 to \$379,700.

Md., Elkton—People's Bank of Elkton, capital \$50,000 incorporated by Henry L. Constable, J. Ben Dedker and others.

Mo., Joplin—Citizens Loan & Investment Co., 320 Joplin St., organized with P. C. Pate, Pres.; Roy C. Thompson, Sec.

Mo., St. Louis—Bel-Nor Realty Co., capital \$10,000, incorporated by E. B., A. A., and W. S. Johnson.

N. C., Wilmington—Security Finance Company, capital \$100,000 incorporated by M. C. McIver and Dr. E. S. Bullock.

N. C., Winston-Salem—Winston-Salem Brokerage Co., capital \$50,000, incorporated by J. R., S. P., and J. C. Graham, Jr.

Okl., Nash—Farmers' State Bank, capital \$25,000 incorporated by J. J. Gibson, Charles D. Jackson and J. R. Allen, Nash.

Okl., Welch—Welch State Bank, capital \$25,000, H. B. Campbell, Pres.; S. M. Bootom, Cashier; merger of Oklahoma State Bank and Bank of Welch.

S. C., Anderson—Anderson Industrial Loan and Savings Bank, capital \$100,000, incorporated by M. R. Driver and others.

Tenn., Trenton—W. L. Wade, and B. F. Lemond, will organize bank with \$100,000 capital.

Tex., Cleburne—George W. Robinson interested in organizing the Cleburne National Bank.

Tex., El Paso—Investment Securities Co., capital \$10,000, incorporated by J. A. Borders, E. N. Bates, G. H. Reed.

Tex., El Paso—Publi Investment Co., capital \$20,000, incorporated by F. M. and Lola Publi, and F. C. Knollenberg.

Tex., Paradise—First National Bank of Paradise, capital \$25,000, incorporated with J. A. Simmons, Pres.; W. A. Green, Cashier; conversion of Paradise State Bank.

Tex., Tyler—Texas Building & Loan Assn., capital \$1,000,000, incorporated by R. W. Simpson, C. J. Brogan, Edgar H. Vaughn.

Va., Lynchburg—James A. Scott-John H. Otey, capital \$75,000, incorporated with James A. Scott, Pres.; K. Duval Scott, Sec.

Va., Norfolk—Bankers' Trust Co. merged with the Norfolk Bond and Mortgage Corp.; E. J. Robertson, Pres.; R. U. Burges, Vice-Pres.

Va., Richmond—Commonwealth Underwriters, Inc., capital \$25,000, chartered with W. H. Moomaw, Pres.; P. L. Hawks, Sec.; both Roanoke, Va.

W. Va., Charleston—Kanawha Insurance Company, capital \$30,000 incorporated by Francis A. Pritchard, John F. Jones, both of Charleston.

## New Securities

Ala., Mobile—Fire Station—City plans voting on \$125,000 bonds Aug. 28; Frank J. Yerger, City Atty.

Ark., Little Rock—Levee-Farely Lake Levee Dist. opens bids for \$165,000 bonds July 30; J. B. Quinn, Sec.

D. C., Washington—Water, Sewer—Washington Suburban Sanitary Comm. will receive bids until Aug. 6 for \$500,000, 4½ per cent bonds; T. Howard Duckett, Chmn.

Fla., Boynton—Water-Works, Street and Tunnel improvement, Indebtedness—Town contemplates \$75,000 bond issue, including \$25,000 for water-works; \$15,000 for streets and sidewalks, and \$35,000 for indebtedness. Address The Mayor.

Fla., Clearwater—Road, Bridge—Pinellas County will receive bids until Aug. 23 for \$2,863,000 bonds; J. N. Brown, Clk. Circuit Court.

Fla., Cocoa—Funding—Broward County sold \$58,000, 5 per cent bonds to Atlantic National Bank of Jacksonville, Fla. at 95.11.

Fla., Cross City—Dixie County will receive bids until Aug. 6 for \$35,000, 6 per cent \$1000 denom. coupon warrants. Address Clk. of Circuit Court.

Fla., Daytona—Waterfront, Streets, Drainage, Sewer Waterworks and Fire Station—City will vote Oct. 1 on bonds; \$260,000 for waterfront; \$200,000 for streets and drainage \$100,000 for sewer construction and extension; \$100,000 for water works and \$10,000 for fire station. Address The Mayor.

Fla., De Land—Road, Bridge — Volusia County voted \$110,000 bonds. Address County Comrns.

Fla., Everglades—Drainage—Spitzer-Roark & Co., Toledo, Ohio, agreed to purchase \$3,500,000 bonds authorized by Legislature at last session.

Fla., Fort Pierce—Inlet—Town sold to Fort Pierce Bank & Trust Co., \$220,000 inlet improvement bonds, at par plus accrued inter-

est. Address Inlet Commrs. (Lately noted voted bonds.)

Fla., Fort Pierce—Road—St. Lucie County, Board of Commrs., voted \$50,000 warrants; will receive bids for same until Sept. 4.

Fla., Fort Pierce—School—Fort Pierce and St. Lucie Special Tax School Dists. will vote Aug. 21 on \$140,000 bonds. Address Dist. School Trustees.

Fla., Key West—Road — Monroe County Commrs., contemplate \$300,000 bond issue.

Fla., Key West—Street, Golf Course, Parks—City sold \$200,000 bonds; \$150,000 for golf course; \$25,000 for parks; \$25,000 for street paving, to J. C. Mayer & Co., of Cincinnati. Address The Mayor. (Lately noted.)

Fla., Lake Worth—Street, Water and Light, Indebtedness—City plans \$65,000 bond issue, including \$20,000 for street widening, \$20,000 for water and light, and \$25,000 for indebtedness. Address The Mayor.

Fla., Leesburg—Paving, Sewer—City voted \$97,000 bonds, including \$75,000 for paving, and \$22,000 for sanitary sewerage and street extension. Address The Mayor.

Fla., Ocala—Marion County, Board of Public Instruction, will sell \$50,000, of \$1000 denom. time warrants; W. D. Carn, Chmn.

Fla., Pahokee—Water-Works, Ice Plant, Road—Town contemplates \$90,000 bond issue. Address The Mayor.

Fla., Sanford—Country Club, Athletic Field—City plans voting on \$75,000 bonds; \$40,000 for country club and golf course; \$35,000 for athletic field. Address The Mayor.

Fla., Seabreeze—School—Daytona Beach and Seabreeze will vote Aug. 14 on \$125,000 bonds. Address Bd. of Education.

Fla., Tampa—School—Hillsborough County, Special Tax School Dist. No. 10, will receive bids until Aug. 24 for \$6000, 6 per cent bonds; J. F. Knight, Sec. Board of Public Instruction.

Fla., Tampa—School—Turkey Creek Special School Tax Dist., will vote Sept. 1 on \$8000 bonds. Address Dist. School Trustees.

Fla., Tarpon Springs—Park—City will vote Aug. 20 on \$45,000 bonds. Address City Commrs.

Fla., Tavares—School—Board of Public Instruction, D. H. Moore, Supt., will receive bids until Aug. 10 for \$60,000, 5½ per cent Lake County Special Tax School Dist. No. 10 bonds.

Fla., Wauchula—School—Hardee County Special Tax School Dist., will receive bids until Aug. 7 for \$20,000, 6 per cent, \$1000 denom. bonds; J. B. Rooney, County Supt.

Fla., West Palm Beach—School—Special Tax School Dist. No. 9, voted \$15,000 bonds; J. W. Mickens, Supt.

Fla., West Palm Beach—Municipal—City will vote Aug. 14 on \$220,000 bonds; \$25,000 for water and fire dept. \$100,000 for seawalls; \$14,000 for memorial library; \$6600 for lot cleaning; \$30,000 city athletic field; \$20,000 for incinerator. Address The Mayor.

Ga., Barwick—School—Barwick School Dist. voted \$20,000 bonds. Address School Dist. Trustees.

Ga., Valdosta—Water, Sewer, Fair Grounds—City defeated \$150,000 bonds. Address The Mayor.

Ky., Bowling Green—Hospital—Bowling Green will vote in November on \$125,000 bonds. Address The Mayor.

Ky., Paducah—Park—City will vote on \$100,000 bonds. Address The Mayor.

La., Alexandria—Road—Rapides Parish will receive bids until Aug. 14 for \$2,000,000 bonds; R. H. Jackson, Pres. Police Jury.

La., Alexandria—Municipal, School—City authorized \$295,000 bonds; \$195,000 for municipal improvements and \$100,000 for schools. Address The Mayor.

La., Cameron—Improvement—City will receive bids until Aug. 1 for \$20,000 bonds. Address The Mayor.

La., Mandeville—Improvement—City will receive bids until Aug. 22 for \$31,500 bonds A. E. Manint, Mayor.

La., Natchitoches—Road — Natchitoches Parish Road Dist. No. 31 will receive bids until Aug. 6 for \$125,000 bonds. Address Parish Police Jury.

La., Shreveport—Street and Bridge—City will probably vote Oct. 2 on \$750,000 bonds; Mr. Thomas, Mayor.

La., Ville Platte — Road — Evangeline Parish Police Jury will receive bids until Aug. 13 for \$800,000, 5 per cent bonds. (Previously noted to vote July 16.)

Miss., Biloxi — School — Harrison-Jackson Consolidated School Dist., will vote July 31 on \$15,000 bonds. Address School Commrs.

Miss., Greenwood—Street and Sewer—City voted \$168,000 bonds. Address The Mayor.

Miss., McNeill—School—McNeil Dist. will vote Aug. 4 on \$5000 bonds. Address School Dist. Trustees.

Miss., Moss Point—School and Fire Equipment—City plans issuing \$12,500 school and \$5500 fire equipment bonds. Address The Mayor.

Miss., New Albany—Road—Union County sold \$190,000 bonds to Bank of Commerce, Bank of New Albany and Merchants & Farmers Bank; all New Albany.

Miss., Oakville—School — Oakville voted \$7000 bonds. Address Bd. of Education.

Miss., Orvisburg—School—Orvisburg Dist. will vote Aug. 4 on \$4500 bonds. Address School Dist. Trustees.

Miss., Poplarville—School—Buck Branch Dist. will vote Aug. 4 on \$4500 bonds. Address School Dist. Trustees.

Miss., Sontag—School—Sontag voted \$5000 bonds. Address Pres. Bd. of Education.

Mo., Bloomfield—Road—Stoddard County, New Lisbon Township, votes July 31 on \$70,000 bonds. Address County Commrs.

Mo., Joplin—School—Board of Education voted \$75,000 bonds; will receive bids for bonds July 30.

Mo., Otterville—Road—Town voted \$10,000 bonds. Address The Mayor.

Mo., Strother — School — Strother School Dist., voted \$2600 bonds. Address School Dist. Trustees.

N. C., Charlotte—School—Mecklenburg County, Board of Education, will receive bids until Aug. 6 for \$3000, 6 per cent, Special School Dist. No. 10, White, Crab Orchard Township bonds; J. M. Matthews, Sec.

N. C., Fremont—School—Fremont Graded School Dist., sold to Prudden & Co., Toledo, Ohio, \$15,000, 6% bonds, at \$1074.75 premium; E. G. Deans, Sec. (Lately noted.)

N. C., Gastonia—School—Board of School Commrs., will receive bids until Aug. 2 for \$100,000, 6%, \$1000 bonds; R. C. Patrick, Sec.

N. C., Lenoir—Water—Town receives bids until July 31 for \$125,000, 5½%, \$1000 denom. bonds; J. T. Pritchett, Town Clk. (Lately noted.)

N. C., Lowell — School — Lowell Graded School Dist. No. 7 sold \$25,000, 6% bonds to Weil, Roth & Irving Co., Toledo, Ohio, at premium of \$1657.50. (Lately noted.)

N. C., Mount Airy—Street, Funding—Bd. of Commrs. opened bids July 31 for \$35,000 street improvement, and \$30,000 funding bonds at par.

N. C., Denton—School—City will receive bids until Aug. 1 for \$200,000 bonds; Geo. N. Rucker, City Sec.

Tex., Edgewood—Light, Water-Works—City voted \$55,000 bonds. Address The Mayor.

bonds; all 5½%, \$1000 denom.; A. V. West, Mayor.

N. C., Salisbury—School—Board of Aldermen will receive bids until August 7 for \$100,000, \$1000 denom. bonds; C. G. Wells, City Clk.

N. C., Sharpsburg—Electric Light System—Town will issue \$10,000 bonds and will receive bids on same Aug. 25; E. H. Jones, Town Clk.

N. C., Southern Pines—Public Improvements—Town will receive bids until Aug. 15 for \$135,000, \$1000 denom. bonds; R. L. Chandler, Clk.

N. C., Spencer—Street—Town sold \$180,000, 6%, \$1000 denom. bonds to T. F. Wren, High Point, N. C., at par and interest plus premium of \$900. (Lately noted.)

N. C., Troutman—Water, Improvement and Assessment—City will receive bids until Aug. 7 for \$30,000 6% bonds. Address The Mayor.

Okla., Jones—School—Geo. E. Calvert, reported to have purchased \$23,000, 6%, \$500 denom. Jones School Dist. bonds, at \$115 premium.

S. C., Fort Mill—Street—City will vote Aug. 21 on \$15,000 bonds. Address The Mayor.

S. C., Greenville—Road—Greenville County voted \$600,000 bonds. Address County Commrs.

S. C., Pageland—Waterworks, Sewerage and Electric Lights—Town plans voting on about \$75,000 bonds. Address The Mayor.

S. C., Seneca—Street and Sidewalk Improvement—Town receives bids until Aug. 1, for \$25,000, 5%, \$1000 denom. bonds. Address Kenneth Richardson, Clk.

S. C., Walterboro — School—Walterboro School Dist. will receive bids until Aug. 23 for \$59,000 bonds. Address Sec. Bd. of Trustees.

S. C., York—Road — York County plans voting Sept. 18 on \$2,000,000 bonds. Address County Commrs.

S. C., York—School—Bethany School Dist. No. 2 will vote Aug. 1 on \$12,000 bonds. Address School Dist. Trustees.

Tenn., Ashland City—Refunding—Cheatham County Court, J. M. Smith, Jr., will receive bids until Aug. 1 for \$60,000, 6% bonds.

Tenn., Halls—School—Halls Special School Dist. sold \$35,000, 5% bonds to I. B. Tigrett & Co., Jackson, Miss., at par plus costs. (Lately noted.)

Tenn., Jasper—Road—Marion County will receive bids until Aug. 6 for \$100,000 bonds; C. T. Williamson, County Judge.

Tenn., Murfreesboro—Street Improvement—Stones River Bank & Trust Co., Murfreesboro, purchased \$84,000, 5% bonds, at par plus premium of \$705. (Lately noted.)

Tenn., Tazewell—Road—Claiborne County will receive bids until Aug. 6 for \$33,000, 6% bonds; L. G. Payne, County Judge.

Tenn., Union City—Bridge, Levee, etc.—Obion County Commrs., will vote Sept. 15 on \$100,000 bonds. (Lately noted.)

Tex., Brownwood—Auditorium—City will vote Aug. 24 on \$50,000 bonds. (Lately noted.)

Tex., Burk Burnett—Water, Street—City sold to J. L. Arlitt, Austin, Tex., \$35,000 waterworks and \$38,000 street improvement bonds at par.

Tex., Denton—School—City will receive bids until Aug. 1 for \$200,000 bonds; Geo. N. Rucker, City Sec.

Tex., Edgewood—Light, Water-Works—City voted \$55,000 bonds. Address The Mayor.

West,  
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Tex., Edinburg—Irrigation—Hidalgo County Water Improvement Dist. No. 4, sold \$1,250,000 bonds to W. Y. Elkins & Co., Little Rock, Ark., at a reported purchase price of 92½.

Tex., Floydada—School—Prairie Chapel Consolidated School Dist. voted \$11,000 bonds. Address School Dist. Trustees.

Tex., Georgetown—Highway—Williamson County voted \$30,000 bonds in Florence. Address County Comms.

Tex., Gorman—School—Gorman Independent School Dist. will receive bids for \$25,000, 5%, \$500 and \$1000 denom. bonds. Address Sec. Board of Education.

Tex., Laredo—Highway—Webb County will vote Aug. 25 on \$250,000 bonds. Address County Comms.

Tex., Laredo—Paving—City voted \$200,000 bonds. Address The Mayor.

Tex., Paducah—Water—City plans voting on bonds. Address The Mayor.

Tex., Palestine—Road—Anderson County sold \$266,000, 5½%, \$1000 denom. bonds to H. Bowman, representing bond buying syndicate, headed by Taylor, Ewart Co., Chicago, Ill., at par and premium of \$2600; W. C. Quick, County Judge. (Lately noted.)

Tex., San Augustine—Roads—San Augustine County will probably vote on \$30,000 bonds. Address County Comms.

Va., Clarksville—Road and Street—Town will receive bids until Aug. 16 for \$14,500 6% bonds; J. W. Maxey, Clk. (Lately noted to receive bids July 10.)

Va., Portsmouth—Road and Bridge—Norfolk County rejected bids for \$200,000, 4½% or 5%, \$1000 denom. bonds; G. Taylor Gwathmey, Clk. (Lately noted to receive bids July 10.)

Tex., Sulphur Springs—Road—Hopkins County contemplates voting on \$564,000 bonds; R. E. Bertram, County Judge.

Tex., Waco—Court House and Jail—McLennan County plan voting on \$400,000 bonds. Address County Comms.

Va., Altavista—Water, Sewer—City will receive bids until Aug. 20 for \$87,000, 6%. \$100 and \$500 denom. bonds; E. Cundiff, Treas. (Lately noted to vote on bonds.)

W. Va., Mill Creek—Water-Works—City will receive bids for \$12,000 bonds about Aug. 15; P. B. Crawford, Mayor.

W. Va., Rock—School—Bd. of Education, W. D. Garwood, Pres., plans calling an election on \$255,000 bonds.

## Financial Notes

Guaranty Company of Maryland, 109 E. Redwood St., Baltimore, Md., plans increasing capital from \$500,000 to \$1,000,000.

Guaranty Savings & Loan Co., Springfield, Mo., plans increasing capital from \$2,000,000 to \$3,000,000; W. L. Garrett, Pres.

Hotel Kanawha Company, Ben Baer, V.-P., Charleston, W. Va., plans increasing capital from \$500,000 to \$525,000.

N. C., Greensboro—Security Life and Trust Co., plan moving offices to Winston-Salem and adding \$700,000 to the company; George A. Grumsley, Pres.

Tenn., Chattanooga—Chattanooga Finance Corp., will increase capital.

## Trade Literature

### A Publication About Ice Making.

"Arctic-Pownall, Stationary Can Raw Water System" is comprehensively described with superior illustrations in a fine booklet issued by the Arctic Ice Machine Co., of Canton, Ohio. This, it is claimed is "the ultimate plant" saving labor, power, repairs, depreciation, etc., and eliminating "white ice," besides producing pure and crystal clear ice of uniform size, shape and weight of blocks. The booklet also contains a long list of users of ice making plants of this kind.

### Catalogue of Tobacco Machinery.

The Cardwell Machine Company, Richmond, Va., have published a finely made catalogue of their tobacco machinery. The book is complete with superior pictures. For nearly 100 years this organization has been making tobacco machinery, having begun business in 1829 and the company is continually designing and manufacturing new and improved equipment, it is stated, to meet the requirements of tobacco manufacturing. Besides tobacco machines, the company manufactures hydraulic presses and pumps, peanut machinery, oil mill equipment and special and automatic machinery. The new catalogue is handsomely enclosed in a cover of dark blue with lettering in black and gold.

### Electric Heating in Industries.

The Westinghouse Electric & Manufacturing Company has issued the first number of a miniature publication entitled, "Electric Heat," which will be published frequently and is devoted to industrial electric heating problems. In this issue there are articles concerning the use of electric heat in the manufacture of storage batteries, electric motors, etc. Of especial importance are articles by Professor W. Trinks of the Carnegie Institute of Technology on "Advantages and Limitations of Electric Heat" and "Reduced Labor—A By-Product" by M. R. Armstrong. The method of calculating power requirements of electric ovens is given together with a number of ways in which hard jobs may be made easy by electric heating.

### Advantages of Fuel Oil Described.

Maximum Results from Fuel Oil" is the name given to a large illustrated booklet issued by the Morse Dry Dock & Repair Co., Brooklyn, N. Y., concerning the Morse fuel oil system, which is described as being not merely a mechanical device, but a complete and permanent combustion engineering service. It presents the story of perfect combustion and consequently of how smoke is abolished with resulting economy and efficiency of service in the operation of boiler plants either ashore or afloat. The distinct advantages of fuel oil are shown in a short summary and it is especially noted that the use of oil in the various industrial districts of this country is rapidly growing. The choice of oil burning equipment is also described briefly, but clearly and completely. The company manufactures equipment to care for any and all individual plant requirements. Pictures and diagrams graphically display the value of the Morse oil burners by comparisons. Accompanying the pamphlet are two illustrated folders which convey further information as to the great advantages of fuel oil. There is also considerable tabulated data of value to engineers, plant executives and others.

### High Speed Grinders Described.

The Wisconsin Electric Co., Racine, Wis., have issued a large folder about the Dumore high speed grinders, which they describe as being dynamically balanced, fast and accurate. A number of pictures show various applications of these grinders and the descriptive matter is complete.

### Safety Ladders Described.

A little folder issued by the Dayton Safety Ladder Co., Dayton, Ohio, whose factory and general offices are at Miamisburg, Ohio, shows in a number of excellent pictures the valuable characteristics of this type of ladder, which it is stated, "eliminates the danger that is always present when the old-fashioned step ladder is used." The ladder is made in five sizes from 3 to 10 feet high.

### A Booklet About Wood Preservation.

An illustrated booklet of 44 pages called "Evidence" tells about the valuable characteristics of the "C-A-Wood Preserver" which is made by the company of that name with offices in the Arcade Building, St. Louis, Mo. Full particulars are given concerning the use and the effects of the preserver which has been used for many years. Quotations from numerous letters received from consumers testify as to its excellence.

### Catalogue of Insulated Products.

Catalogue No. 100 of the Hopewell Insulation & Manufacturing Co., Hopewell, Va., is all about their Paramold insulated products, this material being a composition in which, it is stated, the purest rubber is used as a base and it is said to have unusual heat resisting properties. It is well suited for transformer bushings, roof and wall entrance bushings, round and rectangular wall and floor tubes, bus supports, disconnecting switches and like devices used for the distribution of electricity at high potential. This catalogue shows a number of Hopewell insulators developed to meet the demands of industry.

### Organization Enlarged and Extended.

The Layne & Bowler Company, Memphis, Tenn., have issued a new catalogue describing in detail their water supply proposition. On a basis of "water or no pay" this company, it is stated, will guarantee to a municipality or an industrial concern a specific amount of water for a stipulated price, the contract being backed by a bond to protect the customer. The catalogue describes the deep well pumping equipment, etc., manufactured by the company for underground water development. There is also an article on the reorganization and extension of the Layne & Bowler organization which recently organized six associate companies, viz., at New York, Chicago, Cincinnati, Memphis, St. Petersburg, Fla., and Stuttgart, Ark.

### Catalogue of Cement Roofing Tile.

An artistically prepared catalogue issued by the American Cement Tile Manufacturing Co., Pittsburgh, Pa., contains several fine pictures giving close-up views of "Bonanza Cementile Roofing" as applied to various structures. This roofing consists of large, light, steel-reinforced cement roofing tile, factory made and cured. It is furnished in three types, viz interlocking tile, flat tile and channel tile with all necessary trimmings such as ridge tile, skylight or glass insert tile, flashing tile, collar tile, etc. The tiles are laid directly upon the open roof purlins which are spaced on spans suitable for this roofing. Many of the illustrations are in color so as to show the exact appearance of the roofing and the general character of the publication is high class.

**Boilers for Heating Buildings.**

The Molby Boiler Co., Inc., 41 East 42nd St., New York, have issued a catalogue of their new boiler for which they advise the use of No. 1 buckwheat coal. "Lower priced coal and less of it; lowest operating cost; no night firing; automatic feed; needs refilling only once every twelve hours;" are some of the statements made concerning this new product of the company. These down draft magazine feed, smoke-consuming boilers, with new adjustable side grate are for low pressure steam, vapor and hot water heating in large or small residences, apartment houses, hotels, churches, schools, courthouses, stores and other buildings.

**Two Valuable Industrial Publications.**

"Raising Standards for Steel Castings Through Joint Research" is the title of a pamphlet issued by the Fort Pitt Steel Casting Co., McKeesport, Pa., and containing an article by D. M. Avey, reprinted from the "Iron Trade Review." Mr. Avey points out that scientific investigations and ideas freely interchanged lead to better product. Another article by the same author is on the co-ordination of factory control and in this he shows how five large castings plants com-

bined the direction of general shop practice and research under one directing head, thus solving the problem of executive control. The company has also issued a folder entitled "Giving Away One Idea Brings Back Three or Four," this containing an article by Norman G. Shidle which is reprinted from "Automotive Industries." It shows the possibilities of co-operative industrial effort.

**Advantages of Charge Type Dry Kilns.**

"Moore Facts" for July contains a practical and useful description of the charge or compartment dry kiln which article is from the pen of Charles J. Williams, Jr., president of the Moore Dry Kiln Company of Jacksonville, Fla., and Portland, Ore. After investigation, to meet the demands for drying box lumber for resawing, the Puget Sound Mill & Timber Co. of Port Angeles, Wn., had constructed five rooms, 11 by 104 feet, of the charge type as shown in an illustration appearing in the publication. It is observed that charge kilns are compartments filled with green lumber which is held in one position under varying conditions of temperature and humidity until it is dried to the desired moisture content.

**INDUSTRIAL NEWS OF INTEREST**

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers whether they are advertisers, or subscribers or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

**Order for Relaying Rails.**

An order has been placed with the National Steel Rail Co., of St. Louis, Mo., for 22 track miles of 75 pound relaying rails by the Southern Lumber Co., of Warren, Ark., which controls the Warren & Ouachita Valley Railroad, that is to be further extended into the timber lands of the lumber company.

**Fertilizer Plant and Oil Mill to Be Sold.**

Announcement is made elsewhere in this issue that the fertilizer plant of the Anderson Phosphate & Oil Co. at Anderson, S. C., will be sold at auction at noon on Aug. 27, the property consisting of 64 acres of land, buildings, machinery, equipment, etc., besides twelve warehouses located at other points, stock of materials and supplies. There will also be sold the cottonseed oil plant at Anderson with 4½ acre of land, buildings, machinery, equipment, supplies, etc., office fixtures, used automobiles, etc. J. J. Major is the trustee. Further particulars will be found in the announcement.

**Important Sales to Be Made at Auction.**

An important public auction sale is to take place at Barksdale, Wis., on Wednesday, August 15 comprising the buildings, machinery, equipment, supplies, chemical ware, stone ware, laboratory equipment, etc., of the Jos. Brenner & Co., formerly a plant of the Du Pont Company. Harry W. Fitzpatrick & Co., 224 Royal St., New Orleans, are the auctioneers in charge, who will supply catalogues on request to that address, or else in care of Jos. Brenner & Co., Barksdale, Wis. Further particulars will be found in the formal announcement which appears elsewhere in this issue. These auctioneers also have scheduled for sale on September 5th and 6th, surplus material and equipment of the Board of Commissioners of the Port of New Orleans; on September 7, consignments from the receiverships of several industries; and on September 8, a sale of oil drilling rigs and equipment, all at New Orleans.

**Robert W. Hunt.**

Robert Woolston Hunt, for a number of years prominent in the steel trade, died at his home in Chicago, July 11. He was head of the firm of Robert W. Hunt & Co., consulting engineers and operating managers, which he founded and he was sometimes addressed as "Captain" Hunt, having been a captain in the army during the civil war. Mr. Hunt was said to have established the first laboratory in America as part of an iron and steel organization at Johnstown, Pa., in 1860. In 1921 he was awarded the John Fritz medal for his contributions to the early development of the Bessemer steel process and this year he received the Washington award by steel societies in recognition of the same work. He was a trustee of the Rensselaer Polytechnic Institute, which in 1916 awarded him the honorary degree of Doctor of Engineering. Mr. Hunt was born at Fallsington, Pa., and from the beginning of his career he made a study of iron and steel engineering, and patented many details of iron and steel processes and machinery, including automatic rail mill tables. On May 27, 1920, the Robert W. Hunt & Co. Medal Fund was presented to the American Institute of Mining and Metallurgical Engineers, the award to be made for the best original paper or papers on iron and steel.

**Opening Near Hardwood Lumber Yard.**

The McEwen Lumber Company, High Point, N. C., have announced that they are opening a wholesale hardwood distributing yard there covering several acres in which they will carry a complete assortment of domestic and imported hardwood together with Pacific Coast products, especially California white and sugar pine. This yard, it is stated, is in addition to their other yards in which they carry the same general assortment at Norfolk, Va., and Azalea, N. C. In connection with the construction of sheds, docks, etc., at the new yard the company are in the market for considerable yellow

pine framing, about 100 squares of corrugated galvanized iron, 100 squares of composition roofing, 1000 linear feet of 5 or 6 foot galvanized wire fencing, and about two carloads of sound square edge creosoted gum, S.I.S. or 2.S 1¼ inch, 6 inch and wider, which is for dock platforms 10 and 12 feet long. They also want a two saw trimmer and an iron table ripsaw both for direct electric drive.

**Georgia's Clay Products Development.**

A. F. Greaves-Walker, lately production manager of the American Refractories Company, Pittsburgh, Pa., and who recently purchased a substantial interest in Stevens Brothers & Company, manufacturers of clay products, Atlanta, Ga., is now associated with them as vice president and manager of operations. Mr. Greaves-Walker is also president of the American Ceramic Society and he has located permanently in the South, after an investigation of conditions relative to the production in Georgia of high alumina refractories and other clay products. There has recently been established at the Georgia School of Technology, Atlanta, a ceramic department to advance development of the clay products industry. Mr. Greaves-Walker, who is expected to be prominent in the development of these Georgia products, was at one time production manager of the Sun Brick Co., Toronto, Canada; president of the Canadian National Clay Products Association, and also later chief of the industrial furnace section of the United States Fuel Administration, besides being technical advisor on refractories for the War and the Navy Departments and the Shipping Board. The firm of Stevens Brothers & Co. was established in 1861 by Henry Stevens of Cornwall, England, who was connected with the clay industry in that country before coming to America.

**Important Sales of Valuable Government Stocks to Be Held.**

Final commodity sales of surplus stocks of the War Department will begin in September, according to official announcement, and they will continue until the liquidation of stocks is completed at the quartermaster depots in Brooklyn, Chicago, San Antonio and San Francisco. These sales will include a wide variety of quartermaster supplies and ordnance property, besides smaller quantities of engineer property, chemical warfare supplies, and medical and hospital supplies. The War Department especially observes that those who profit most through Government sales are those who most thoroughly investigate them, and that the department has tried to operate on the "Buyer Be Satisfied" principle, but it recommends that everyone intending to purchase investigate thoroughly before buying. Nearly three billion dollars worth of property has already been disposed of and more is to be sold. Advertisements are appearing in different publications, including one in this issue of The Manufacturers Record, but others will appear in due course and should be looked for. Sales will be held at convenient points with full opportunity for inspection of what is offered. Sales of real estate are also to be made at Ayer, Mass.; Amatol, N. J.; Camp Meade, Md.; Toledo, Ohio; Louisville, Ky.; and American Lake, Wash. Dates will be given later. Intending purchasers are advised to send their names and addresses to Major J. L. Frink, Chief, Sales Promotion Section, Room 2615, Munitions Building, Washington, D. C., stating what they are interested in. Catalogs will then be sent to them.

# UNINTERRUPTED SERVICE



As a city grows it is sometimes necessary to change the location of water and gas distribution mains. Where standard bell and spigot cast iron pipe has been installed this job is not difficult. Bell and spigot joints are flexible enough to take care of any slight deflection and the line remains tight. The illustration above shows a section of the 1,400 feet of 20-inch pipe on Western Avenue, Seattle. This pipe was raised 20 feet under 120 pounds water pressure without interruption of service.

A more difficult job was accomplished in Philadelphia two years ago. Here three 48-inch mains were lowered 4 feet in a rock trench without cutting off the city's water supply.

*Write for a copy of the American Water Works Association Specifications.*

## United States Cast Iron Pipe & Foundry Co.

General Offices, Burlington, New Jersey

### SALES OFFICES:

Philadelphia, 1421 Chestnut St.

Pittsburgh, Henry W. Oliver Bldg.

New York, 71 Broadway.

San Francisco, Monadnock Bldg.

Chicago, 122 S. Michigan Blvd.

St. Louis, Security Bldg.

Birmingham, 1002 American Trust Bldg.

Dallas, Tex., Magnolia Bldg.

Kansas City, Mo., Interstate Bldg.

Minneapolis, Plymouth Bldg.

Cleveland, 1150 E. 26th St.

Buffalo, 957 E. Ferry St.

Cincinnati, Dixie Terminal Bldg.

**Construction on \$5,000,000 Pacific Mills—800 Tons Steel Delivered—Bids in Few Weeks on School and Dwellings.**

Lyman, S. C.—Good progress is being made by construction forces under the direction of Lockwood, Greene & Co., engineers, Boston, on the new \$5,000,000 plant here of the Pacific Mills, for which Parklap, Inc. of New York is the general contractor and the McClintic-Marshall Construction Co. of Pittsburgh, contractor for the structural steel frame. About 800 tons of steel have been delivered at the job and it is stated that an excellent supply of labor is available for construction purposes.

Approximately 100 operatives' houses are in various stages of completion and it is expected that the total number of 300 will have been completed before the end of the year. Bids will be taken within a few weeks by the engineers for the construction of a 12-room school, community building, superintendent's house and seven overseers' houses.

The mill buildings will include a cotton mill to house 36,000 spindles, 136 by 290 feet, 4 stories, bleachery, 196 by 652 feet, two stories and basement; warehouse 75 by 103 feet, 5 stories, and a boiler and pumphouse, 75 by 68 feet. All structures will be of concrete and steel.

**Virginia Invites Road and Bridge Bids.**

Richmond, Va.—The State Highway Department will receive bids until August 21 for building a total of 20.4 miles of roads, together with a number of bridges. The roads embrace 8.7 miles of grading and draining in Dickenson County; 9.9 miles of bituminous macadam in Louisa and Albemarle Counties, and 1.8 miles in Elizabeth City County.

Bridge work includes approaches to Craig Creek bridge in Craig County, steel bridge over Piney River near Canody in Amherst and Nelson Counties, bridge over Allen's Creek near Rose Mill in Nelson County, consisting of two 24-foot concrete beam spans, and 3-span bridge over South Anna River near Green Springs in Louisa County. H. G. Shirley is chairman of the State Highway Department.

**Missouri Awards Road Contracts.**

Jefferson City, Mo., July 30—[Special.]—Contracts have been awarded by the State Highway Board for the following roads: For 2.73 miles of gravel in St. Charles County to J. P. Sparks of Kirkwood, Mo., at \$18,678; 2.472 miles of gravel in Ralls County, F. F. O'Dell, Center, Mo., at \$27,065; 5 miles of graded earth road in Marion County, J. C. Lyle, Kansas City, Mo., \$30,496; 2.443 miles in Perry County, Kiefner & Geile, Perryville, Mo., \$27,132; 2.047 miles of gravel surfacing in Pike County, F. F. O'Dell, \$25,158; and road from Milan to Green City in Sullivan County, Woodsmall & Woodsmall, Marshall, Mo., at \$9165.

**BONDS AND STOCK CERTIFICATES  
ENGRAVED BY  
SECURITY BANK NOTE CO.  
"PROVIDE ABSOLUTE PROTECTION"**

*Requests for Quotations and Sketches Solicited*

PHILADELPHIA  
223-5-7 CHESTNUT ST

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20 BROAD ST

**Good Progress on Plant of Southern Worsted Corporation.**

Greenville, S. C.—Satisfactory progress is being made on the construction of the plant here of the Southern Worsted Corporation and it is expected it will be ready for operation early in 1924. As noted in the MANUFACTURERS RECORD recently, the Gaston Construction Co. of Gastonia, N. C. was awarded contract for the manufacturing buildings and the Minter Homes Co. of Greenville has now been awarded contract for 80 operatives' dwellings and four overseers' houses. Other contracts have also been let for building equipment and machinery.

Side track has been installed and foundations for the mill are being constructed. Lockwood, Greene & Co. of Boston and Atlanta are the engineers and J. F. Syme, general manager of that company, is spending part of his time at Greenville, expecting to locate here permanently in the fall.

**Bids to Be Opened by Kentucky Highway Commission for 12 Miles Roads.**

Frankfort, Ky.—Bids will be received by the State Highway Commission at its office in Frankfort until August 29 for the construction of three sections of roads aggregating more than 12 miles. These include 2.646 miles of the Hazard-Jackson road in Perry county, improvements to consist of shaping, constructing drainage structures, etc.; 3.996 miles of the Hazard-Whitesburg road in Perry County, work to consist of shaping and draining, and 5.409 miles of the Hodgenville-Glasgow road in Larue County, the work to consist of shaping, constructing drainage structures and surfacing to a width of 18 feet with water-bound macadam, water-bound macadam surface treated, or bank gravel.

Information may be obtained from the State Highway Engineer at Frankfort.

**Negotiating for Services of Mill Engineer.**

Little Rock, Ark.—The Arkansas Cotton Mills Company, of which E. Dalton, of Pocahontas, Ark., is president, is negotiating with J. E. Sirrine & Co. of Greenville, S. C., Lockwood, Greene & Co. of Boston and Atlanta, and Robert & Co., Inc. of Atlanta, and expects soon to contract with one of these firms to build its proposed mill No. 1. As reported in the MANUFACTURERS RECORD last week, the company is capitalized at \$1,500,000, and plans to build a 20,000-spindle mill here.

In addition to Mr. Dalton, other officers include Dr. H. L. Throgmorton of Pocahontas, vice-president; T. W. Campbell, secretary and treasurer, and John B. Tripp, fiscal director, both of Little Rock.



**A SECURITY OF CHARACTER**

There are securities and securities—but here is one 22 years old—absolutely safe—capital always available without loss. \$100.00 and up. References—any Bank and Trust Company in Savannah, Ga. Send for Booklet.

**G. A. MERCER COMPANY**  
Investment Bankers Savannah, Ga.

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We Make Them Promptly. Headquarters for Seals, Stock Certificates, Stencils, Steel Dies, Brass Signs, Enamel Plates, Memorial Plates, Church Seals and Pew Plates. Made on our Premises. Send for Catalogue.

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